A PRE EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON THE LEVEL OF KNOWLEDGE REGARDING ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHERS IN A SELECTED SCHOOL, AT ERODE DISTRICT

BY

301331854

A DISSERTATION SUBMITTED TO THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER – 2015

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SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN NURSING FROM THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY, CHENNAI.

OCTOBER – 2015

DECLARATION

I hereby declare that the present dissertation titled **"A pre experimental study to assess the effectiveness of Structured teaching programmeon the level of knowledge regarding Attention Deficit Hyperactivity Disorder among primary school teachers in a selected school at Erode district",** outcome of the original research work undertaken and carried out beme, under the guidance of Research Guide Prof. Mrs. M. KAVIMANI, R.N, R.M, MSc(N)(Phd) Principal, Shiv Parvathi Mandradiar Institute of Health Sciences, College of Nursing and the Clinical Specialty Guide Asst. Prof. Mrs. JOTHIMANI, R. N, R. M, M.S.N,HOD

I also declare that the material of this has not found in any way, the basis for the award of any degree/ diploma in this University or any other University.

301331854

DECLARATION

I hereby declare that the present dissertation titled **"A pre experimental study to assess the effectiveness of Structured teaching programme on the level of knowledge regarding Attention Deficit Hyperactivity Disorder among primary school teachers in a selected school at Erode district" is a bonafied work done by 301331854 at Shiv Parvathy Mandradiar Institute of Health Sciences** in partial fulfillment of the university rules and regulations for award of Master of Science in nursing under my guidance and supervision during the October 2015.

Signature of the Guide and Head of the Department

Signature of the Principal

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

301322054

AT THE SHIVPARVATHI MANDRADIAR INSTITUTE OF HEALTH SCIENCES, COLLEGE OF NURSINGSUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF NURSING FROM THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY, CHENNAI.

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Dedicated to...

My Lovable Parent

ACKNOWLEDGEMENT

I praise and thank God Almighty for giving me the strength to complete this task and for the real treasure of courage, endurance and abundant blessings throughout my career and my personal life.

I raise my heart in gratitude to God Almighty; he has been my shepherd and guiding force behind all my efforts. His omnipresence has been my anchor through the hard time.

Apart from the effort of me, the success of my study comes from every soul who encouraged and guides me in all the aspects. With profound sentiments and gratitude, I the Investigator of this study own my heartfelt gratitude to all those who have contributed for the successful completion of this dissertation.

I lend this opportunity to express my sincere heart full thanks to our Honorable Chairman (late) Mr.Shivakumar Mandradiar, **Shiv Parvathi Mandradiar Institute of Health Science, College of Nursing, Palayakottai** for providing me a prospect for my post graduation with necessary amenities to uplift my professional life.

Grateful thanks to Mr.Naveen Mandradiar,Secretary,Mrs.Mano Mandradiar Correspondent, Mrs.Pallavi Mandradiar, and Mr.Balasubramanian, Manager, SPM Institute of Health Science College of Nursing ,Palayakottai,for their constant encouragement and support to complete this study.

It is my privilege to owe my sincere indebtedness and humble regards to my beloved **Prof. Mrs. M. Kavimani MSc(N),(Phd),Principal, SPMIHS, Palayakottai**, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this project. I feel motivated and encouraged every time during the course of my study. Without her encouragement and guidance this project would not be materialized.

It's my pleasure and privilege to express my deep sense of gratitude to our respective **Prof. Mrs. Jothimani**,MSc(N)H.O.D of Psychiatric Nursing, SPMIHS, Palayakottai. The investigator feels that words would not be sufficient to express her gratefulness towards her for having not spared herself, being patiently available always, the timely correction, suggestions and ideas which have contributed to the concretization of this research.

I am indeed thankful to **Prof. Dr. K. Dhanapal,** Bio-statistician, SPMIHS, Palayakottai, for his guidance in carrying out the necessary statistical analysis and presentation of the data in the study.

I would like to give my very special thanks to all the teaching staff and non teaching staff of SPMIHS, for their contribution during my course of my study.

A memorable note of gratitude to **Ms. B. Vanitha,** Librarian SPMIHS for the timely help, kind cooperation and attention for completing the project work successfully.

I express my special gratitude and thanks to **Mrs.Rajam**Principal, Navarasam Matriculation Higher Secondary School, Palliyuthu, Erode district for

providing a wonderful opportunity for conducting the study and I am very grateful to all the teachers of the schools for their kind cooperation during the study period.

I would like to convey my warm and heartfelt thanks to all the participants who have willingly shared their precious time during the process of data collection. Without their kind cooperation nothing is possible for me to go ahead with this study.

Words are beyond expression for the meticulous, I express my love and gratitude to my beloved my parents Mr.Ambikapathy ,Mrs.Meenakshi, Mr.Rajendran andMrs.Saroja who supported me in all my ways and my Husband Mr.Anandan for their care, support, unending love, special prayers, constant encouragement and strength which made my study, a dream come true and who made me to be happy and cheerful during the study.

I extend my sincere thanks to every soul who helped me directly or indirectly in making this study a successful one, but not mentioned in this acknowledgement.

Above all I bow my head in reverence to **God Almighty** for guiding me to reach the steps and complete my study. His omnipresence has been my anchor through the fluctuating hard times and making it all possible.

Thanks to all

301331854

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LIST OF ABBREVIATIONS

ABBREVIATIONS	EXPLANATIONS
SPMIHS	Shiv Parvathi Mandradiar Institute of Health Sciences
Fig	Figure
H	Hypothesis
M.Sc (N)	Master of Science in Nursing
n	Total Number of Samples
No	Number
%	Percentage
SD	Standard Deviation
MD	Mean Difference
P	Probability
SPSS	Statistical Package for Social Sciences
ADHD	Attention deficit Hyperactivity Disorder
KADDS	Knowledge of attention deficit disorder scale.
DSM	Diagnostic and Statistical Manual of Mental Disorder
LBW	Low Birth Weight
ANOVA	Analysis of Variance
SIM	Self-Instructional Educational Module
ESCD	Early symptoms of childhood psychiatric disorder
TBI	Traumatic Brain Injury
NHNAES	National Health Nutrition and Examination Survey
LD	Learning disability

ABSTRACT

A pre experimental study to assess the effectiveness of structured teaching programme on the level of knowledge regarding Attention Deficit Hyperactivity Disorder among the primary school teachers in a selected school at Erode District was done by 301331854 as a partial fulfillment of the requirement of the Degree of Master of Science in Nursing at Shiv Parvathi Mandradiar Institute of Health Science, under the Tamil Nadu Dr. M. G. R. Medical University, Chennai, October 2015.

The Objectives of the study were

- To assess the pretest and posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers

- To assess the effectiveness of structured teaching programme on the level of knowledge regarding attention deficit hyperactive disorder among primary school teachers

- To find out the association between the posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers with their selected demographic variables.

The Research Hypothesis formulated and tested were:

H_1: There is a significant difference between the pretest and posttest level of knowledge regarding attention deficit hyperactivity disorder among primary school teachers.

H_2: There is a significant association between the posttest level of knowledge regarding attention deficit hyperactivity disorder among primary school teachers and their selected demographic variables.

Review of literature was done regarding Attention Deficit Hyperactivity Disorder in the following heading,

- Studies related to the prevalence of Attention Deficit Hyperactivity disorder
- Studies related to knowledge regarding Attention deficit hyperactivity disorder among school teachers
- Studies related to the effectiveness of Structured teaching programme on Attention deficit hyperactivity disorder among school teachers

The conceptual framework for the present study is formulated by the investigator based on Betralanff's theory (1968) the general system theory. The research design used was a pre experimental one group pretest and posttest design. The data collection tool was validated by a Psychiatrist and the four nursing experts. Reliability was established by test – retest method, r = 0.9 for the structured questionnaire. The samples for the study were chosen by using

purposive sampling technique, 40 samples in the experimental group Data was collected by using Structured Questionnaire , for a period of One month.

The data collected were edited, tabulated, analyzed and interpreted manually. The obtained over all posttest mean score 23.32 was more than the pretest mean score 6.35. The obtained mean difference was 16.97.The standard deviation of pretest and posttest was 3.36 and 3.02 respectively and there was no significant association between posttest level of knowledge and their selected demographic variables.

The findings of the study revealed that there was a significant difference in the pretest score and the posttest score on the level of knowledge regarding Attention Deficit Hyperactivity Disorder. The implications, limitations, recommendations and conclusion were clearly spelt.

CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

"Good timber does not grow with ease; the stronger the wind, the stronger the trees."

-J.Willare Marriott

Every children as young as two years old have the cognitive capacity to interpret the physical and psychological states of others, the emotional capacity to affectively experience the other's state, and the behavioural repertoire that permits the possibility of trying to alleviate discomfort in others. A child of three or four is considered a preschooler and they are different from toddlers in that they are developing the basic life skills, independence, and knowledge that they will need as they enter their school years. Preschoolers are learning many new skills and stretching their cognitive abilities. These are the capabilities underlie each and every children. When children do not act in a way consistent with these capacities, we might therefore come to a very different conclusion that they have some psychological problems.

Nowadays, Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common mental disorders that develop in children and becomes apparent in the preschool and early school years. The global burden of disease indicates that by the year 2020, childhood neuropsychiatric disorders will

increase by more than 50% internationally to become one of the five most common causes of morbidity and disability among children. Attention deficit hyperactivity disorder is becoming a serious public health problem affecting a large number of children and adults. It is persistent and debilitating inattention, over activity, and Impulsivity. The variable incidence of Attention deficit hyperactivity disorder, which ranging from 2%to 16% and Attention deficit hyperactivity disorder is diagnosed much more often in boys than in girls. It is very important to know more about Attention deficit hyperactivity disorder because it can have a significant social impact on patient's lives, causing disruption at school, work, home and in relationships.

Hyperactivity disorder, which ranging from 2%to 16% and Attention deficit hyperactivity disorder is diagnosed much more often in boys than in girls. It is very important to know more about Attention deficit hyperactivity disorder because it can have a significant social impact on patient's lives, causing disruption at school, work, and home in relationships.

Families of children and adolescents with attention-deficit hyperactivity disorder may be indirectly affected by the disorder; parent-reported impact on themselves or the family may include: parental stress; parental emotional/mental health problems; sibling conflict; disruption to family cohesion; and less time available to spend on family activities.

Results of the large, cross-sectional, European Lifetime Impairment Survey(2013) which assessed parent-reported impairment and symptoms of Attention deficit hyperactivity disorder in children and adolescents with Attention deficit hyperactivity disorder (n=535) compared with children and adolescents without Attention deficit hyperactivity disorder (n=424), indicated that more parents of children with Attention deficit hyperactivity disorder

tended to report impairment at school compared with parents of children without Attention deficit hyperactivity disorder.

B.K.Rao (2010) stated that kids diagnosed with Attention deficit hyperactivity disorder have difficulty in making and maintaining friendships and also have conflictual relations with their parents due to behavioral problems like lying, stealing, stubbornness and demanding behavior.

Wolfe & Mash, (2006) found that Attention deficit hyperactivity disorder have wide-ranging effects on the lives of the people with the disorder. Adolescents with Attention deficit hyperactivity disorder often have severe problems in many areas of performance, including educational success and interaction with peers.

Adults with Attention deficit hyperactivity disorder have been found to have occupational difficulties which may impact on their productivity in the workplace and their reputation as an employee, with high job turnover or unemployment frequently observed. A US community-based study 2013 found that adults with self-reported Attention deficit hyperactivity disorder were less likely to be in full-time employment compared with healthy adults (34% vs 57%, respectively; $p \leq 0.001$).

Attention deficit hyperactivity disorder in children, adolescents and adults may impact on the relationships that they share with family, friends, teachers, partners or colleagues, with evidence of peer rejection, and difficulty in maintaining friendships or family/romantic relationships. In a US study, adults with self-reported Attention deficit hyperactivity disorder (n=500) reported less stability and significantly higher rates of divorce in marital/cohabiting relationships compared with controls ($p \leq 0.001$); in addition,

they were significantly less likely to have a good current relationship with their parents compared with controls.

According to Science journal of public health (2015)a study was done in Lebanon among 1781 school children aged (5-11 years) found the prevalence of Attention deficit hyperactivity disorder was 22.3%, a study was done in USA, and California found the prevalence of Attention deficit hyperactivity disorder was20.4% in school aged children. Prevalence of Attention deficit hyperactivity disorder Symptoms in Preschool-aged Iranian Children Of 1403children aged 3-6 years, was according to their parent evaluation 25.8%, and according to their teacher evaluation17 %(14). In Egypt, a study of the prevalence of Attention deficit hyperactivity disorder among children from Delta region was 20.4%.

A meta-analysis carried out by **Karen Bardossi (2015)** estimated Attention deficit hyperactivity disorder affects 7.2% of children worldwide. The recent studies done in USA stated that 5.9 million children between the ages of 3-17 years are suffering from Attention deficit hyperactivity disorder. Children in North America appear to have a higher rate of Attention deficit hyperactivity disorder than children in Africa and the Middle East. It is estimated that Attention deficit hyperactivity disorder affects between 5.4-8.7% of children in Africa. Rates in Germany and Spain are estimated 4.8% and 6.8% of the participants had an Attention deficit hyperactivity disorder respectively. In the UK, surveys of children between the ages of 5 and 15 years found that 3.62% of boys and 0.85% of girls had Attention deficit hyperactivity disorder.

A new study led **by Professor Jeannette Ickovics, Director of CARE (Community Alliance for Research and Engagement 2015)** at the Yale School of Public Health has found that Middle-school children who consume heavily sweetened energy drinks are 66% more likely to be at risk for hyperactivity and inattention symptoms.

The research published in the **Journal of the Federation of American Societies for Experimental Biology (2015)** found that a commonly used pesticide may alter the development of the brain's dopamine system which is responsible for emotional expression and cognitive function and increase the risk of attention deficit hyperactivity disorder in children.

Studies by **Robson** and co-authors have shown that children with Attention deficit hyperactivity disorder at age 6 were 2.7 times more likely than controls to have nocturnal enuresis.

In a study Led by **Soren Dalsgaard** from **Aarhus University in Denmark**People with attention deficit hyperactivity disorder (ADHD) have a lower life expectancy and are more than twice as likely to die prematurely as those without the disorder and accidents are the most common cause of death in people with Attention deficit hyperactivity disorder because of their inattention while driving.

Dr. Brinkman and his colleagues studied data on more than 2,500 teens between the ages of 12 and 15 from the data came from the (2000-2004 National Health and Nutrition Examination Survey (NHANES)), which is a nationally representative sample of the United State population designed to collect information about health. He found that Teens with a diagnosis of Attention deficit hyperactivity disorder and conduct disorder had a three- to

five-times increased likelihood of using tobacco and alcohol and initiated use at a younger age than those who had neither disorder. Having Attention deficit hyperactivity disorder alone was associated with an increased likelihood of tobacco use but not alcohol use.

A study, which followed almost 7000 children in Finland, found that those who had Attention deficit hyperactivity disorder symptoms at age eight had significantly higher odds of being obese at age 16. Children who had Attention deficit hyperactivity disorder symptoms were also less physically active as teenagers.

A study published online in the Journal of the American Academy of Child and Adolescent Psychiatry 2013 revealed a significantly higher prevalence of substance abuse and cigarette use by adolescents with attention deficit hyperactivity disorder (ADHD) histories than in those without Attention deficit hyperactivity disorder.

Recently, in an **Iowa State University study**, Researchers noted that more severe symptoms of inattention and Attention deficit hyperactivity disorder behavior were found in students who played video games for more than one hour, but it is unclear whether playing video games for more than one hour leads to an increase in Attention deficit hyperactivity disorder symptoms, or whether adolescents with Attention deficit hyperactivity disorder symptoms spend more time on video games.

Indian studies quoted that Attention deficit hyperactivity disorder is highly prevalent in lower and middle socio-economic class and Behavioral problems have been reported to be high in Indian children belonging to nuclear families. There is an absence of Indian research studies available on children

who may be experiencing sub-clinical or mild levels of Attention deficit hyperactivity disorder.

Karande et al., (2007) studied children with Attention deficit hyperactivity disorder and Specific Learning Disability in Mumbai. The study observed that the average age at which children were identified was 11.36 years. There was a gap of 5.8 years between noticing learning and behavioral difficulties and actually making a diagnosis. This delay could be attributed to the observation that teachers and parents in India often take a maturational perspective especially with boys who display behavioural difficulties.

The survey conducted in **2011**by **Associated Chambers of Commerce and Industry of India** in 10 major cities. 1,000 school teachers and doctors were interacted. Teachers said that in every single class they have one to three children who are diagnosed with Attention deficit hyperactivity disorder. 46 per cent of doctors or health care providers found that children at the age of four are more prone to this disease. They concluded that prevalence of children diagnosed with Attention deficit hyperactivity disorder has gone up from four per cent to 11 per cent in the past six years and more boys are affected by Attention deficit hyperactivity disorder than girls.

NEED FOR THE STUDY

Children spend most of their time in classrooms and other school settings. Here they are expected to follow rules, behave in socially appropriate ways, participate in academic activities and refrain from disrupting the learning process or activities of others. Teachers in elementary school are the first adults to see children in formal group settings and can identify developmentally inappropriate behaviors in the classroom context. Teachers do not only have to

teach learners the skills and knowledge that form part of the curriculum but they also have to teach them to behave in a manner that meets organizational, cultural and social expectations. However, the work of the teacher becomes much more demanding when there are learners in the classroom that have Attention Deficit Hyperactivity Disorder.

Noam & Hermann, (2002) stated that Schools play important roles in the psychosocial development of the child as they constitute frames where developmental domains engage and transform

Attention deficit hyperactivity disorder is believed to have a noticeable impact on social, economic, educational, and health care delivery systems. The impact this disorder has on the family unit and in adult life needs considerable research effort to clarify what aspects of family it impacts and in what ways.

Small, clinic-based studies have shown that adults with Attention deficit hyperactivity disorder consistently exhibit problems with interpersonal relationships, often have difficulty with employment, and frequently have comorbid or secondary conditions that further debilitate. Perhaps many of the disabilities and poorer outcomes associated with Attention deficit hyperactivity disorder actually are more strongly associated with conditions that are highly comorbid with Attention deficit hyperactivity disorder (such as Conduct Disorder) and result in significantly higher economic consequences to society.

In addition, there is little concrete knowledge of the degree to which interventions can or do improve the outcome of children with Attention deficit hyperactivity disorder. Developing ways to improve outcomes must begin with consistent and standardized measures of the impact of the disorder. Such methodical surveying has not occurred.

According to **Kos, Rich dale, & Hay, (2006);** behaviors associated with Attention deficit hyperactivity disorder, such as inattention, impulsivity, and hyperactivity, are noticeable in classrooms because school settings require children to behave in ways that are at odds with the symptoms of the disorder.

Stroh (2008) identified that teachers as the most frequent initial referral source by recommending to parents that their child receive assessment for Attention deficit hyperactivity disorder.

Cormier(2008)concluded that teachers are often responsible for implementing and evaluating interventions for Attention deficit hyperactivity disorder in the classroom.

According to **Kleynhans (2005)**, teachers recognize that children with Attention deficit hyperactivity disorder are restless and the teachers learn about Attention deficit hyperactivity disorder through actual classroom experiences of teaching often confirmed the diagnosis in the children with Attention deficit hyperactivity disorder.

Kleynhans, (2005); stated that the psychologist or medical practitioner needs thorough information from school personnel to assist in making a diagnosis; therefore, the teacher's perspective is important in making a diagnosis.

According to **Chronis(2006)** said that inattention and hyperactivity/ impulsivity may impact a child's classroom conduct and his or her capability to learn resulting in lower academic success and diminished performance in the school surrounding.

Hala A Malik Al-Hakeem(2013)indicated that the educational system does not pay enough attention to Attention deficit hyperactivity disorder students. It also shows that teachers have not been adequately prepared to deal with such cases and the main source of teachers' knowledge about Attention deficit hyperactivity disorder was from magazines and newspapers and not from courses and seminars.

According to **Decaires-Wagner & Picton, (2009)** to put inclusive education into practice a teacher needs to accommodate and recognize the unique diversities of the children in class. To-do this effectively the teacher needs to be fully informed about these diversities. In creating welcoming and accommodating classrooms for all learners, it is important for teachers to organize their environments according to the diversity of needs of the learners in the class. Therefore the knowledge teachers have about Attention deficit hyperactivity disorder may also influence how they communicate with and teach children diagnosed with Attention deficit hyperactivity disorder.

Holz & Lessing, (2002) stated that having abettor understanding may prevent the teachers from developing negative views of these learners or labeling them.

Zentall, (2006)said that understanding Attention deficit hyperactivity disorder enabled teachers to change their classroom management, to adapt the curriculum, to have realistic expectations and to use a variety of teaching strategies in order to create a positive learning environment that are conducive to the academic, social and emotional success of learners diagnosed with Attention deficit hyperactivity disorder. Collaborating with and advising parents and other role players effectively also demand extensive knowledge on teacher's part.

Tannock & Martinuseen, (2011) mentioned that Attention deficit hyperactivity disorder symptoms are typically at their most prominent during the elementary stage. Consequently, elementary teachers are most likely to be among the first people to notice these symptoms as the school setting provides a daily contact with students. They play a major role in identifying students.

According to **Wrestling, (2010)**students with Attention deficit hyperactivity disorder were found to be one of the most challenging categories of students for the special education teachers. Thus, they are likely to be even more challenging and devastating for regular classroom teachers. Equipping regular teachers with adequate and sufficient knowledge about the disorder and with methods to manage the behaviour of Attention deficit hyperactivity disorder students is an insisting demand to promote successful classroom practices.

Ghanizadeh, Bahredar and Moeini (2006) found that Iranian teachers lack sufficient knowledge and have weak tolerant attitudes towards students with Attention deficit hyperactivity disorder. More than 50% of Iranian teachers believed that Attention deficit hyperactivity disorder is due to parental spoiling, whereas one third of them thought it was caused by excessive sugar intake.

In Australia, **Bekle (2008)** found that teachers have a sound knowledge base of ADHD but with some gaps. Although 93% of the relatively small sample (30 elementary teachers) understood that poor parenting was not the cause of Attention deficit hyperactivity disorder and 83% agreed that it can be inherited, yet, 48% of the sample thought it is caused by sugar or additives.

In contrast, **Norvilitis and Fang (2005**) found Chinese and American teachers and graduate students more knowledgeable. They reported that 60% of the Chinese teachers and 48% of the American teachers agreed that Attention deficit hyperactivity disorder is biologically based.

According to **Louw, Oswald & Perold, (2009)** closer working relationship between classroom teachers, psychologists and medical practitioners would be likely to enhance the diagnostic process, and to improve the efficacy of medication management, as well as the treatment process of Attention deficit hyperactivity disorder.

According to **Perold etal.,(2010): Rodrigo, Perera, Eranga, Williams & Kuruppuarachchi, 2011** the knowledge score regarding Attention deficit hyperactivity disorder below 50%.

Aguiar et al., 2014; Barnett, Corkum,& Elik, (2012); Jones & Chronis-Tuscano, (2008); Syed & Hussein, (2010) stated that short term interventions and web based interventions have been shown to rapidly improve knowledge about Attention deficit hyperactivity disorder, with benefits lasting for at least 6 months.

West, Taylor, Houghton & Hudyma, (2005) found that teacher's knowledge and beliefs about Attention deficit hyperactivity disorder might influence the classroom practices, which in turn influence the performance of students with Attention deficit hyperactivity disorder.

School is one of the most organized and powerful systems in society which presents opportunity to work through it and to influence the health and wellbeing of those who come in contact with it. Children are usually placed in

classes with one teacher who will be primarily responsible for their education and welfare for that year. Education bring awareness among the masses, opens avenues for opportunities as well self-advancement and improvement. In order to compete with the surrounding world, children are prepared from very early childhood. Every single child that means girls as well as boys should be able to complete full course of primary education. This is possible only when the children are active and attentive and able to control their behavior in the class room where they learnt to accommodate outside world. If the children have any problem in these three things they cannot complete the course of education and we have to suspect whether the children are affected by Attention Deficit Hyperactivity disorder.

Based on the review of literature and the observation made by the investigator that school teachers play central roles in reporting symptoms, advising parents to seek assessment, and assisting children with Attention deficit hyperactivity disorder to achieve academically and socially. Teachers are seen as some of the most valuable sources of information with regard to referral and diagnosis of this disorder. Inaccurate information about this serious disorder can lead to teachers making inaccurate referrals, giving incorrect advice to parents and failing to address the disorder effectively in the classroom. They are also responsible for creating an environment that is conducive to academic, social and emotional success for children with Attention deficit hyperactivity disorder.

Early identification and intervention have shown better prognosis in a number of childhood psychiatric disorders including disruptive and autistic spectrum disorders. Therefore, it is important to sensitize the teachers about childhood psychiatric disorders and make them understand and utilize their crucial role in early identification of problems and early referral. University-

based pre-service educational programs do not adequately prepare the teachers to have sufficient knowledge and skill for identifying a wide variety of symptoms related to mental health disorders. Hence, this study was undertaken to find out the possibility of improving knowledge of primary school teachers on Attention deficit hyperactivity disorder.

We have a responsibility towards our children to make sure that teachers are knowledgeable about Attention deficit hyperactivity disorder and that they are in a position to offer support to children in order for them to manage their behavior and achieve success both socially and academically. A structured teaching program for teachers will help them to enhance their knowledge. Hence there is a need to assess the effectiveness of structured teaching program on the level of knowledge regarding Attention deficit hyperactivity disorder among primary school teachers in selected school at Erode district.

STATEMENT OF THE PROBLEM

A pre experimental study to assess the effectiveness of structured teaching programme on the level of knowledge regarding Attention Deficit Hyperactive Disorder among primary school teachers in a selected school at Erode district.

OBJECTIVES OF THE STUDY

- To assess the pretest and posttest level of knowledge regarding attention deficit hyperactivity disorder among primary school teachers

- To assess the effectiveness of structured teaching programme on the level of knowledge regarding attention deficit hyperactivity disorder among primary school teachers

- To find out the association between the posttest level of knowledge regarding attention deficit hyperactivity disorder among primary school teachers and their selected demographic variables**.**

HYPOTHESIS

H_1: There is a significant difference between the pretest and posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers.

H_2: There is a significant association between the posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers and their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

In this study**,** it refers to make a judgment about the value of structured teaching programme contains information's regarding Attention Deficit Hyperactivity Disorder.

Effectiveness

In this study ,it refers to the systematic determination of merit , worth and significance of structured teaching programme containing information's regarding Attention Deficit Hyperactivity Disorder on the knowledge of primary school teachers regarding attention deficit hyperactivity disorder in children assessed by structured questionnaire.

Structured Teaching Programme

Structured teaching programme was prepared to enhance the knowledge of primary school teacher regarding attention deficit hyperactive disorder which consist of the following content

- Introduction

- Importance of knowing about Attention deficit hyperactivity disorder
- Definition of attention deficit hyperactivity disorder
- Incidence of attention deficit hyperactivity disorder
- Types of Attention deficit hyperactivity disorders
- Causes of Attention deficit hyperactivity disorder
- Pathophysiology of Attention deficit hyperactivity disorder
- Symptoms of Attention deficit hyperactivity disorder
- Diagnosis of Attention deficit hyperactivity disorder
- Treatment of attention deficit hyperactivity disorder
- Condition associated with Attention deficit hyperactivity disorder
- Prognosis of Attention deficit hyperactivity disorder
- Conclusion

Knowledge

In this study, it refers to the familiarity, awareness or understanding knowledge on the ability of the primary school teachers regarding attention deficit hyperactive disorder in which aspect of finding causes, signs and symptoms and management of it.

Primary school teachers

In this study, it refers to the qualified teachers teaching between Ist standard to 5th standard including both sex.

Attention deficit hyperactivity disorder

In this study, it refers Attention Deficit Hyperactivity Disorder is a problem of not being able to focus, being overactive, not being able to control behavior or a combination of these.

ASSUMPTIONS

- The primary school teachers have inadequate knowledge regarding attention deficit hyperactive disorder in primary school children.

- The structured teaching programme will enhance the knowledge regarding attention deficit hyperactive disorder among primary school teachers.

DELIMITATIONS

- The study is limited to the period of 4 weeks.
- The study is limited to primary school teachers
- The study is limited to one primary school
- Sample size is limited to 40

CONCEPTUAL FRAMEWORK

A concept is an abstract idea or normal image of phenomena or reality. Conceptualization is a process of forming idea which utilized and forms conceptual frame work for development research design.

A frame work is a basic structure or outline of abstract. The present study aims at developing and evaluating structured teaching programmed in terms of improving the knowledge regarding Attention deficit hyperactivity disorder.

The conceptual framework based on Betralanff's theory (1968) the general system theory. In this theory the main focus is on the discrete parts and their interrelationship, which consists of input, throughput and output. "System" as a complex interaction, which means that systems consist of two or more converted elements, which form an organized whole and which interact with each other. In this study **Input** is considered to be information related to Attention deficit hyperactivity disorder. It includes

- Development of the structured questionnaire regarding Attention deficit hyperactivity disorder

- Development of the Structured Teaching Programme on Attention deficit hyperactivity disorder

Throughput refers to the process by which the system processes input and release an output. In this study the throughput considered for processing the input are:

- ❖ Pre – test by using the structured questionnaire
- ❖ Administering Structured Teaching Programme on Attention deficit hyperactivity disorder
- ❖ Post-test

According to the systems theory Output refers to energy, matter and information that leave a system. In the present study "output" is considered to be the gain in knowledge obtained through the processing of the post-test. It will be received in the form of post-test knowledge scores.

According to systems theory **Feedback** refers to output that is returned to the system that allows it to monitor itself overtime in an attempt to move closer to a steady state known as equilibrium or homeostasis. Feedback may be positive, negative or neutral. For the present study 'feedback' is related to the effectiveness of teaching programme and that will be obtained by Testing Relationship between pre – test and post – test knowledge scores.

According to **Ludwig Von Vertalanffy** the system acts as a whole. Dysfunction of a part causes system disturbances rather than loss of a single function. Whole system can be resolved into an aggregation of feedback circuits such as input, throughput and output. The feedback circuits help in the maintenance and improvement of an intact system. In this study, effectiveness of Structured Teaching Programme is tested by inter related elements such as input, throughput and output. From the feedback efficiency of the input such as structured teaching programme regarding Attention Deficit Hyperactivity Disorder. The process of teaching as throughput will be assessed in terms of effectiveness.

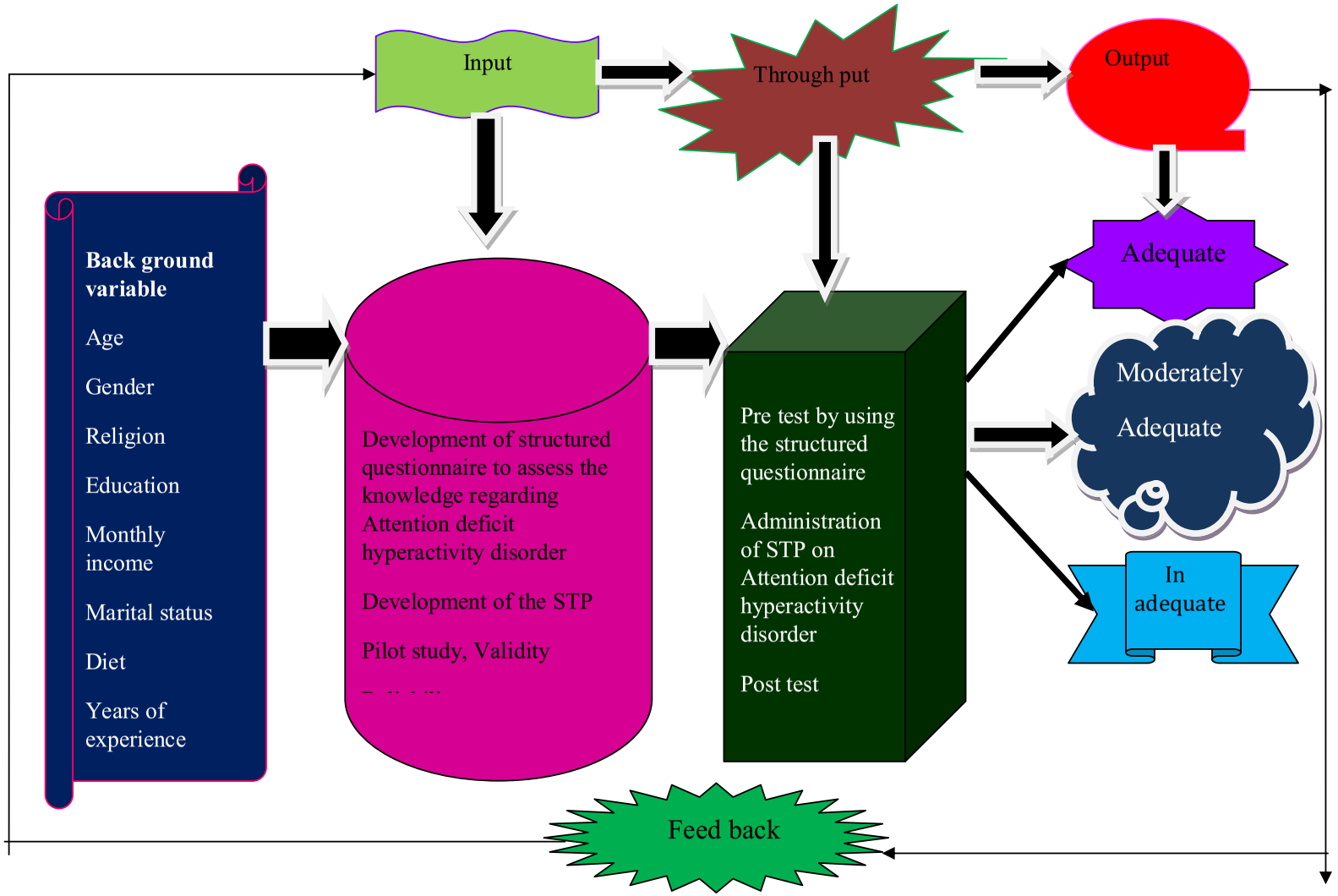


Fig 1 : Conceptual framework model based on modified general system theory (Betralanff & JW Kenny)

CHAPTER – II

REVIEW OF LITERATURE

Review of literature is an important step in the development of a research project. It involves the systematic identification location, scrutiny and summary of written materials that contain information on research problem.

"The literature is reviewed to summarize knowledge for use in practice or to provide a basis for conducting study.**"** **- Nancy Burns 2002**

"A literature review is an account of what has been already established or published on a particular research topic by accredited scholars and researchers." **-University of Toronto, 2001**

This chapter attempts to preset a broad review of the studies conducted, the methodology adopted and conclusion drawn by earlier investigation, it helps to study the problem in depth. The literature reviewed for the present had been presented under the following heading

- **Studies related to prevalence of Attention Deficit Hyperactivity Disorder.**
- **Studies related to Knowledge regarding Attention Deficit Hyperactivity Disorder among school teachers**
- **Studies related to Structured Teaching Programme on Attention Deficit Hyperactivity Disorder among school teachers**

STUDIES RELATED TO PREVALENCE OF ATTENTION DEFICIT HYPERACTIVITY DISORDER

Ferranti catala et-all (2012)did a cross sectional observational epidemiological studies to assess the quantity the overall prevalence of ADHD among children and adolescents in Spain by means of a systematic review and meta-analysis. They selected under 18 years old samples. The results revealed that fourteen epidemiological studies (13,026) subjects were selected, the overall pooled – prevalence of ADHD was estimated at 6.8% (95 confidence interval 4.9-8.8%) representing 361, 580 children and adolescence in the community. There was significant heterogeneity ($p<0.001$) which was incompletely explained by sub group analysis and Meta regression. The study concluded that the prevalence of ADHD among children and adolescents in Spain is consistent with previous studies represents a first step in estimating the national burden of ADHD that will be essential to building –based programs and services.

BS. Suvarna et.al (2009) this study was performed to determine the prevalence rate of ADHD in preschool age children in kinder gardens of south west, Mumbai. They selected 1250 children aged between 4-6 years from 40 kinder gardens. The Conner's index questionnaire was completed for each child by teachers and parents. The result revealed that parents of children who's scores were positive for ADHD _>15 were interviewed by a psychiatrist and the ADHD was diagnosed based on DSM IV criteria schedule for affective disorder 152 [12.2 %] children were diagnosed to have ADHD the study concluded that . This study recommends the need for diagnosis and treatment of ADHD in preschool age children.

John V.Lavigne (2009) conducted a study to examine the epidemiology of preschoolers' psychopathology in Iran. Totally 796 children aged 4 years recruited from schools and pediatric practices in a diverse, urban area.

Psychiatric disorder were assessed by a structured interview adapted for preschool children and by questionnaire. The most common disorder were oppositional defiant disorder and attention deficit hyperactivity disorder. Generalized anxiety disorder and depressive disorders were reported in less than 1% of the sample. Race and ethnicity differences were not significant. Gender differences showed ADHD inattentive type more common among boys. The overall comorbidity rate was 6.4%.

Jamal H.AL Hammed (2008) performed a cross sectional study to determine the prevalence of Attention deficit hyperactivity disorder and associated family and psychosocial factors among male primary school children in Dammam city , Saudi Arabia . Totally 1287 students aged 6-13 years in government and 10 private primary schools was selected by multistage systematic random sampling. Data was collected using modified Arabic version and questionnaire to diagnose the three main subtypes of attention deficit hyperactivity disorder. Data collected were entered into the SPSS version 11.5.Descriptive statistics and chi square test were used to analyze the data. The study found that the prevalence of attention deficit hyperactivity disorder among school boys in Dammam city was high and the study revealed that a variety of family and maternal factors high birth order, large family size and living with single parent significantly associated with the development of attention deficit hyperactivity disorder and inattention was very high in the bottle fed children. The researcher recommended that several approaches should be implemented to reduce the prevalence and incidence of attention deficit hyperactivity disorder and parents training programs should be developed to increase parenting skills.

Abdul Bari Bener (2005) conducted a cross sectional descriptive study to identify Attention Deficit Hyperactivity Disorder among primary school children in the state of Qatar. A total of 2000 primary school students aged between 6-12 years were selected and 1541 students were willing participate in the study. An Arabic questionnaire and Conner's classroom rating scale for ADHD symptoms were used to collect the data. The study indicated that 112 boys and 33 girls scored above the cutoff for ADHD symptoms, thus giving an overall prevalence of 9.4%. Children who had a higher score for ADHD symptoms who had school poor performance than those with lower scores. The study concluded that ADHD were found to be a common problem among school children in Qatar.

STUDIES RELATED TO KNOWLEDGE REGARDING ADHD AMONG SCHOOL TEACHERS

Marsha Youssef etal (2015)conducted a cross sectional descriptive survey that made use of convenience sampling design to assess primary and secondary school teachers' knowledge regarding attitudes towards ADHD in Trinidad &Tobago, Overall 277 teachers were participated in the study. Self-reported questionnaire was used to collect the data and it was analyzed by using SPSS version 17. Differences in mean were tested using ANOVA. They reported that Teachers knowledge about ADHD was low with the mean total knowledge score being less than 50% correct and the study demonstrated positive attitude toward ADHD. The researcher recommended that in service training concerning ADHD and other childhood developmental disorders to be incorporated within the education system.

Hasan Al-Oman etal (2014) investigated Jordanian teacher's knowledge and their attitude towards children with ADHD. The research design adopted for this study was cross sectional descriptive study design. A standardized self-report questionnaire was completed by a convenience sample of 130 teachers recruited from 13 primary schools in Zarqa city, Jordan.Data was analyzed by using SPSS version 16. The study found that there was a gap in the knowledge that extended across all aspects of ADHD causes and management and the teacher's attitude towards children with ADHD was also lower than they expected and they had many misconceptions about the causes and management of ADHD. The study stressed the need for implementing special programme targeting school teachers and reforming pre service teachers training to meet the needs of children with ADHD.

Dr. Morayo Jimoh (2014) investigated the primary school teacher's knowledge and attitude towards ADHD using two psychological theories (Theories of Reasoned Action and Theories of Planned Behavior. The research design adopted for this study was survey research design. 250 samples aged between 20-60 randomly selected from 20 primary school in Lagos State of Nigeria. The researcher developed the questionnaire to collect the data. The analysis of data was done by the t test and ANOVA. The study revealed that the teacher's knowledge was deficient and they have shown a negative attitude towards the pupil with ADHD. There was a significant relationship between the education, years of experience and exposure to training on ADHD and the perceived knowledge and attitude to pupil with ADHD. The investigator recommended that a course in adolescent and mental health needs to be a part of the curriculum of Teachers Training Institutions in Nigeria.

Moldavsky M etal (2014) performed a thematic analysis of comments passed by primary school teachers who participated in a case-vignette study investigating the ability of teachers to recognize ADHD in Iran. The study aimed to assess the attitude of primary school teachers about children with ADHD and the role of pharmacological management given to ADHD. 496 teachers were selected by convenient sampling from 110 schools completed the questionnaire. Descriptive and Inferential statistics were used to analyze the data. The study reported that the teacher's knowledge about specialist services are inadequate and 125 teachers reported that medication is not at all necessary to treat ADHD. The researcher recommended that health services should support teachers about the management of ADHD related behaviors in school and provide information to increase teachers' ability to identify the need for a referral to specialist health services.

Jyothsn Akam Venkata (2013) conducted a cross sectional study in Coimbatore district to identify the prevalence of ADHD to identify the gender difference in the prevalence of ADHD, to compare the distribution of ADHD among different socioeconomic status and also to identify the presence of any co-morbid factors associated with ADHD.. 635 primary school children aged between 6-11 years are randomly selected to participate in the study. Conner's Abbreviated Rating Scale and Children's behavior Questionnaire, Personal information questionnaire were used to collect the data. Statistical Product and Service Solutions (SPSS) 10 software, Mean and Standard Deviation and student's *t* test were used for statistical analysis. The study prevalence revealed that 72 children found to have ADHD and prevalence was highest among the children of age 9 and 10 years. ADHD was more prevalent in the males (66.7%) than in the females (33.3%), the comorbid conditions associated with ADHD were poor academic performance, reading difficulty, writing difficulty, behavioral difficulties and poor social behavior. There was a significant

difference in the prevalence of ADHD between the children belonging to lower (16.33%) and middle socioeconomic class (6.84%). The study indicated that the importance of early identification and thus helping in early intervention of this disorder.

Anil Shetty etal (2013) did a cross sectional descriptive study to assess the awareness and knowledge of ADHD in the elementary school teachers and the variables influencing the knowledge of ADHD in India. 312 teachers participated in the study were selected by purposive sampling and given a self-reported questionnaire. Descriptive and inferential statistics were used to analyze the data. 268 teachers were aware of the term ADHD and their knowledge of ADHD ranged from poor to adequate. 28(9%) of teachers had prior training. Only 92(29%) of the teachers had a good understanding of ADHD. The study concluded that teaching experience and prior training had a positive bearing on knowledge and majority of teachers queried felt that their knowledge was inadequate and were willing to be trained on features of ADHD.

Hala A Malik etal (2013) done a cross sectional study to evaluate the knowledge of primary school teachers of ADHD, attitude and behavior towards ADHD students. One hundred fifty eight randomly selected governmental primary school teachers in Bahrain completed the questionnaire about knowledge and attitude towards ADHD. Data was analyzed by using SPSS version 14. Eighty four (53.2%) of the teachers were knowledgeable about ADHD and their main sources of knowledge about ADHD were newspapers and magazines. The study concluded that teacher's knowledge of ADHD was found to be less than optimal and the study indicated that the educational system does not pay enough attention to ADHD and the researcher recommended that the Ministry of Health and Ministry of Education should

arrange and workshops and courses directed towards the teachers to help them to identify and deal with such students.

Karen Weller Swanson (2012) conducted a quantitative descriptive comparative study to examine the level of knowledge regarding attention deficit hyperactivity disorder among middle school teachers in South Texas and to compare the knowledge level among three specific knowledge areas: General knowledge of ADHD, Knowledge of symptoms/diagnosis of ADHD and knowledge of treatment for ADHD.The three subscales were measured by Knowledge of Attention Deficit Disorder Scale. 107 teachers from Hispanic middle schools randomly selected for the study. Collected data was analyzed by SPSS, General linear model procedure, Univar ate analysis of variance. The study found that teacher's knowledge was inadequate about the causes, nature and outcome of ADHD. Though they were familiar with the symptoms of ADHD and they had difficulty to identify a particular student with ADHD. The investigator recommended that further research to be carried out to examine individual special education program success in identification and instruction with special needs and to observe excellent teacher professional development programs that positively impact student academic success.

Noha Shaaban (2012) done a non-experimental descriptive design to explore the awareness in elementary teachers of Egyptian international schools regarding ADHD and to examine their perceptions and attitudes towards students diagnosed with the disorder. 36 class room teachers teaching the children aged between 3-17 years were participated in the study. The Conner's Rating Scale is used to measure the teacher's knowledge regarding ADHD symptom and multiple choice questions were put to find out teacher's perception about the prevalence, classification and diagnosis of the disorder and their confidence in teaching students with ADHD and where to look for

extra information about ADHD. SPSS version 16.0 is used to analyze the data. The study reported that the teachers had a relatively reasonable amount of knowledge. 56% said that stimulant medication gives the good result and 72.2% agreed that special diet are considered effective. 62.9% reported children with ADHD need psychological help. 88.9% said structuring the child's environment is enough to treat the child. Two third of the sample disagreed that punishment is an effective treatment and all the participants stresses that parents involvement is essential in the intervention process and 85.7% recommended a combination of medication and behavior management for treatment. Most of the teachers had a positive attitude towards the intelligence of the children with ADHD. 33 teachers perceived students with ADHD to have talents. 32 teachers had evenly opposite perception about the tendency of students with ADHD to have difficulties in their relationship with peers.

Department of Psychiatry, University of Kelaniya, Sri Lanka(2011) conducted a cross sectional study to assess the knowledge and attitude towards ADHD among primary school teachers in Tapaha district. 202 Samples were selected by using stratified sampling method in randomly selected schools. Self-structured questionnaire is used to collect the data and it is analyzed by using SPSS version 15. The study concluded that only minority had adequate knowledge about the presentation of ADHD and its treatment but three-fourths had a positive attitude towards behavioral therapy. The majority of the teachers showed good understanding about the ill effects of ADHD and the teacher's role in management and counterproductive effects of punishment.

Muanprasart P etal(2007) done a cross sectional survey to identify knowledge on 150 teachers working in 3 large primary schools, Phra Nakorn Sri Ayutthaya Province, Thailand regarding ADHD and its influencing factors.

Non probability purposive sampling was used to select the samples. Standardized questionnaires comprised of Demographic data, ADHD experiences and the Knowledge of Attention Deficit Disorder scale, KADDS were distributed to participating teachers. Results were reported using frequency, percentage, mean and standard deviation. Association between demographic factors and ADHD experiences and the KADDS score was identified by logistic regression analysis. The study concluded that knowledge regarding ADHD was inadequate.

STUDIES RELATED TO STRUCTURED TEACHING PROGRAMME ON ADHD AMONG SCHOOL TEACHERS

Sandeep Garg etal (2014) did a pre experimental one group pretest and posttest design to assess the knowledge of primary school teachers regarding common behavioral problems in children and to evaluate the effectiveness of STP on selected common behavioral problems of children and to find out the association between pretest knowledge score and selected demographic variable in Gujarat. 60 primary school teachers were conveniently selected from five primary school of Vadodara. Self-reported structured interview was used to collect the data. Mean, frequency, paired t test and ANOVA were used to analyze the data. The result of the study showed that in pretest, primary school teachers had on average 49.40% knowledge regarding selected common behavioral problem whereas in the post test the knowledge level increased to 75.83%. The study concluded that STP is effective tool to improve the knowledge of primary school teachers.

LizaThankam Daniel etal(2013) did a pre experimental one group pre and posttest design to assess the knowledge of primary school teachers regarding ESCD before and after the administration of SIM on ESCD, to find out the association between knowledge gain score of primary school teachers regarding ESCD and selected variables, to find out the acceptance of SIM on ESCD by primary school teacher's. 35 primary school teachers were selected by total enumeration sampling from four different schools at Delhi. A structured questionnaire was used to collect the demographic data. After the pretest assessment the subjects were asked to study the SIM on ESCD for 15 days and the post test conducted on 16 the day. Data were analyzed using statistical package STATA 9.0 version. Mean pretest knowledge score of subjects was 9.71±4.1, whereas the mean post-test knowledge score of subjects was 15.60±3.3 indicated that STP was effective. The demographic variables family income, Type of school, In-service education programme attended in the past, marital status, religion, significantly associated with pretest knowledge score. The study interpreted SIM on ESCD was an acceptable educational module and also practicable and viable method for the use of primary school teachers.

Prashant B Patil (2013) conducted a study to find out the effectiveness of STP on knowledge and attitude of primary school teachers regarding ADHD in selected schools, Mangalore. An evaluative approach with one group pretest, posttest design was used for the study. 60 primary school teachers were selected by convenience sampling method. Data was collected by administering structured knowledge and attitude questionnaire on ADHD prepared by the investigator. After that STP was given and on 7^{th} day post test was conducted. Descriptive and Inferential statistics were used to analyze the data. The result showed the significant difference suggesting that the STP was effective in increasing the knowledge and attitude of the teachers. There was no association

between the pretest knowledge and attitude scores with the selected demographic variables. There was a significant positive correlation between knowledge and attitude.

Shubhada Kale (2009) conducted a pre experimental one group pretest and posttest design to assess the effectiveness of structured teaching programme on knowledge of mothers regarding behavioral problems in children aged between 1-12 years in selected urban slums of Gujarat, India. 60 mothers were randomly selected to participate in the study. The tool used for data collection are knowledge assessment structured questionnaire on behavioral problems and structured health teaching on behavioral problems of children. The study revealed that in pretest majority (86.7%) of the subjects had poor knowledge and 13.3% had average knowledge. In posttest 71.7% of them had good knowledge and 28.3% of them had average knowledge. The study concluded that the STP was effective in improving the knowledge of subjects.

CHAPTER III

RESEARCH METHODOLOGY

Methodology is a significant part of any research which enables the researcher to organize the procedure of collecting reliable data for the problem under study or investigation. This chapter deals with the description of methodology and the various steps adopted to collect and organize data for the study.

According to **Polit and Beck (2004**) research methods are the techniques used by the researcher to structure a study to gather and analyze information relevant to research question.

The methodology section includes the research approach, research design, variables, settings, population, sample, sample size, sampling technique, sampling criteria, development of the tool, description of the tool, validity, reliability, pilot study, data collection procedure, plan for analysis and ethical consideration.

RESEARCH APPROACH

According to **Suresh K. Sharma (2011**) the research approach involves the description of the plan to investigate the phenomenon under study in a quantitative, qualitative or a combination of the two methods. Furthermore, it helps to decide whether the presence or absence as well as manipulation and control over variables.

The selection of research is the basic procedure for the research of enquiry. Quantitative Evaluative approach was considered as appropriate for the present study. Evaluative research is generally an applied research that involves the findings out of how well a program, practice, procedure or policy is working. It involves the collection and analysis of information relating to the functioning of a program or intervention with aim of assessing the effectiveness.

RESEARCH DESIGN

According to **Kothari,** a research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

The research design selected for this study was pre experimental one group pretest and posttest design. In this present study, the investigator intended to assess the improvement in knowledge of the primary school teachers regarding attention deficit hyperactive disorder before and after the administration of structured teaching programme regarding Attention Deficit Hyperactivity Disorder.

RESEARCH DESIGN NOTATION

GROUP	PRE TEST	INTERVENTION	POST TEST
Experimental	O_1	X	O_2

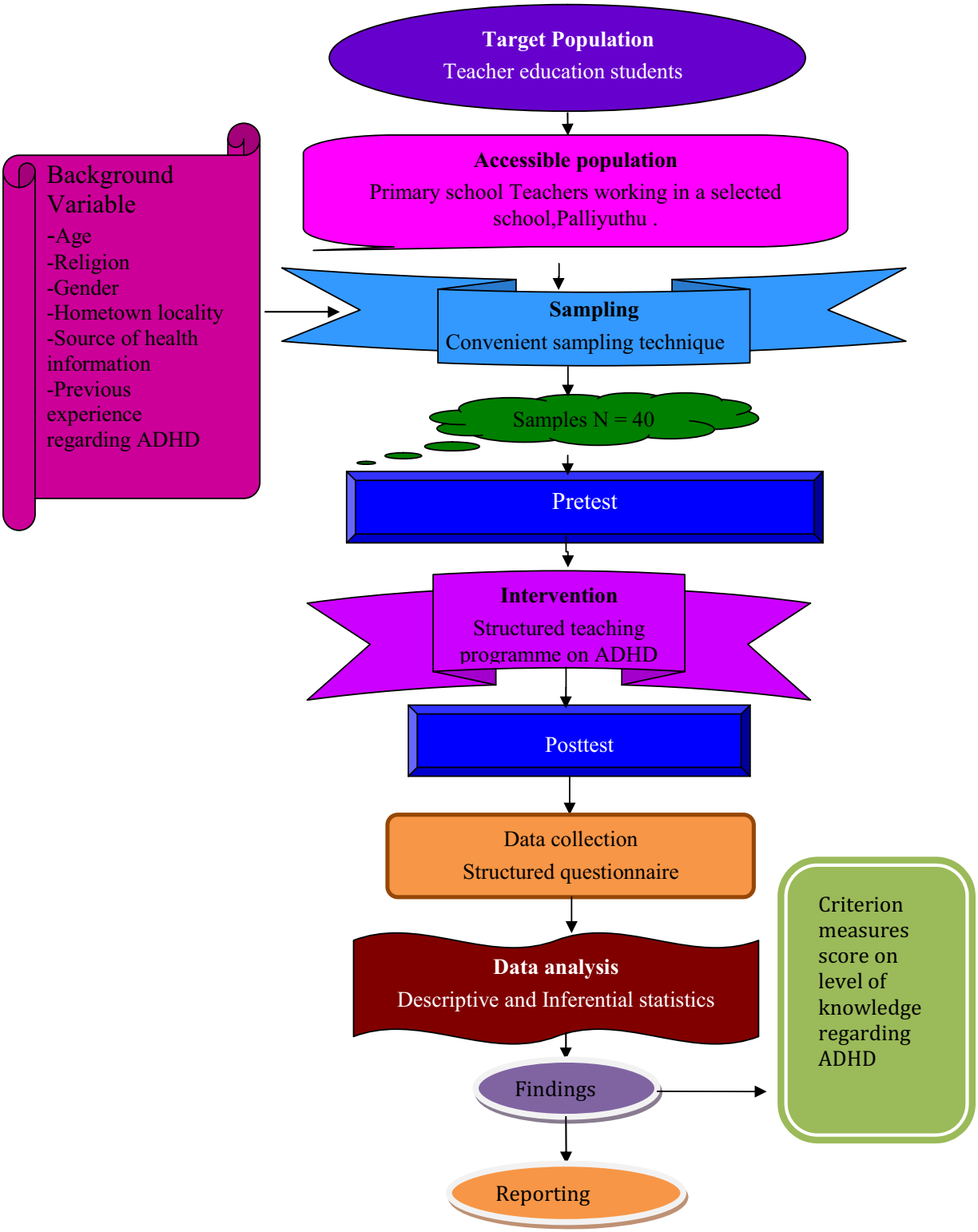
Symbol used:

O_1 = Pretest to assess the level of knowledge regarding Attention Deficit Hyperactivity Disorder among primary school teachers in a selected school, Erode district.

X = Administration of structured teaching programme regarding attention deficit hyperactivity disorder.

O_2= Posttest to assess the level of knowledge regarding Attention Deficit Hyperactivity Disorder among primary school teachers in a selected school, Erode district.

SCHEMATIC PRESENTATION ON RESEARCH DESIGN:



VARIABLES

Variables are qualities, properties or characteristics of person, things, or situations that change or vary.

Chinn and Kramer stated that *"*Variables are concepts at different level of abstracts that are concisely defined to promote their measurement or manipulation within study". Variables are classified as Independent and dependent variable, Research variable, Demographic variable and Extraneous variable.

Dependent variable:

It is the focus of the study and reflects the empirical aspects of the concepts being studied.

Dependent variable – Level of Knowledge regarding attention deficit hyperactivity disorder.

Independent variable:

Variable causing change is referred to the dependent variable. It is the intervention or treatment that the investigator performs to see the resulting change in the dependent variable.

Independent variable – Structured teaching programme on attention deficit hyperactivity disorder.

Extraneous variables:

Existing characteristics of the research subjects such as Age, Gender, Religion, Educational status, Monthly Income in Rupees, Marital status, Residential area, Type of family, any history of ADHD in family, Years of Experience in handling primary school.

SETTING OF THE STUDY

According to **Polit and Beck (2004)** setting is the more specific places where data collection occurs. The selection of setting was done on the basis of feasibility of conducting the study, availability of subjects and cooperation of the authorities. The school selected for the study was Navarasam Matriculation Higher Secondary School, Palliyuthu at Erode district. Totally 920 primary school children were studying there. Among them Boys were 482 and Girls were 438. 46 teachers were taking class for the students studying I^{st} to V^{th} standard.

POPULATION

Polit and Beck (2012) stated that the term population refers to the aggregate or totality of all subjects or members that conform to a set of specifications. Population may be of two types- target population and accessible population.

Target population refers to the population that the researcher wishes to make a generalization. In this study the target populations were the primary school teachers.

Accessible population refers to the aggregate of cases which confirm to the designed criteria and which is accessible to the researcher as the pool of subject or object. In this research the accessible populations were the primary school teachers working in a Navarasam Matriculation Higher Secondary School, Palliyuthu, and Erode district.

SAMPLE

Polit and Beck (2012) stated that a sample consists of the subset of the population selected to participate in the research study. The sample for the study were primary school teachers who met the inclusion criteria.

SAMPLE SIZE

Sample size is the number of participants in the study. The sample size is determined based on the type of study, variables being studied, the statistical significance required, and availability of samples and feasibility of conducting the study. The sample size for this study was arbitrarily decided to be 40.

SAMPLING TECHNIQUE

It is the process of selecting subject from a population in order to obtain information regarding a phenomenon in a way that represents the entire population. In this study researcher selected the samples by convenient sampling method.

SAMPLING CRITERIA

In sampling criteria the researcher specifies the characteristics of the population under the study by detailing the inclusion and exclusion criteria. Inclusion criteria are characteristics that each sampling element must possess to be included in the sample. Exclusion criteria are characteristics that could confound or contaminate the results of the study therefore such participants are excluded from the study.

SAMPLING CRITERIA

Inclusion criteria.

- Primary school teachers who are willing to participate.
- Primary school teachers including males and females.
- Primary school teachers who know to read, write, understand Tamil or English

Exclusion criteria

- The primary school teachers who had been exposed to similar teaching previously.
- Primary school teachers who were absent during the data collection.

DEVELOPMENT OF THE TOOL

The tool is a written device that a researcher uses to collect the data. After careful and detailed review of literature the researcher prepared and developed back ground data and structured questionnaire as a tool for the present study.

DESCRIPTION OF THE TOOL

Description of the tool refers to the explanation of the content of the tool. The researcher listed the number of items and the scoring for each item in the tool. The tool consists of two parts:

PART – I

Demographic variables : It consists of back ground variables such as Age, Gender, Religion, Educational status, Monthly Income in Rupees, Marital status, Residential area, Type of Family, Years of Experience in handling primary school children, previous knowledge regarding ADHD, If yes, Source of information.

PART – II

Structured questionnaire: It consists of 29 questions to collect the known information's regarding attention deficit hyperactivity disorder from the primary school teachers participating in the study. Out of 29 questions 5 items were related to general information about attention deficit hyperactivity disorder, 8 items regarding the causes of attention deficit hyperactivity

disorder, 2 items regarding pathophysiology of attention deficit hyperactivity disorder, 6 items regarding symptoms of attention deficit hyperactivity disorder, 3 items regarding the diagnosis of attention deficit hyperactivity disorder, 3 items regarding the treatment given to attention deficit hyperactivity disorder, 2 items regarding the conditions associated with attention deficit hyperactivity disorder.

The Knowledge regarding attention deficit hyperactivity disorder was measured in terms of knowledge score. Each correct answer was given a score of one mark and wrong answer or unanswered was given a score of zero. The maximum score was 29. To interpret the level of knowledge the scores were distributed as follows:

Score	Percentage	Interpretation
0-10	2.85- 34 .4%	Inadequate knowledge
11 – 20	37.9- 68.9 %	Moderately adequate knowledge
21 – 29	72.4- 100 %	Adequate knowledge

Development of structured teaching programme

It is a guide for the teacher to gain vast knowledge regarding Attention Deficit Hyperactivity Disorder with proper sequence of points and without missing anything.

The steps to prepare Structured Teaching Programme regarding Attention Deficit Hyperactivity Disorder were:

- ❖ Review of literature
- ❖ Framing the outline of the content.
- ❖ Preparation and organization of content.
- ❖ Deciding the method of instruction and AV aids.
- ❖ Preparation of the final draft.
- ❖ Editing the structured teaching programme and evaluating the structured teaching programme on Attention Deficit Hyperactivity Disorder.

Review of literature:

An extensive literature review was undertaken from research and non-research materials, internet sources, and journals etc., regarding attention deficit hyperactivity disorder.

Framing the outline of the content:

The outline of the teaching plan was framed which included setting of the general and specific objectives regarding attention deficit hyperactivity disorder , specifying the date, time, place and size of the group, number of sessions and duration of sessions.

Preparation and organization of the content:

Content of the structured teaching programme on alternative and contemporary modalities was prepared and organized under various headings according to the specific objectives. Information's regarding Attention Deficit Hyperactivity Disorder was organized under various headings such as, Definition of attention deficit hyperactivity disorder, causes, pathophysiology, signs and symptoms, diagnosis of Attention deficit hyperactivity disorder, treatment given to Attention deficit hyperactivity disorder, conditions associated with Attention deficit hyperactivity disorder, etc.

Deciding the method of instruction and AV aids:

The method of instruction adopted was lecture method with the help of AV aids

Preparation of the final draft of structured teaching programme regarding Attention Deficit Hyperactivity Disorder:

General and specific objectives of the structured teaching programme were given in the beginning of the beginning of the structured teaching programme. Final draft of structured teaching programme was organized under various headings such as general information about ADHD, Definition of ADHD, causes, pathophysiology, signs and symptoms, diagnosis of ADHD, treatment given to ADHD, conditions associated with ADHD, etc.

Editing the Structured Teaching Programme

The prepared structured teaching programme was edited by professional editors.

Description of Structured Teaching Programme

Structured teaching programme was prepared to enhance the knowledge of primary school teachers regarding alternative and contemporary modalities which consist of the following content.

- Introduction
- Importance of knowing about Attention Deficit Hyperactivity Disorder
- Definition of ADHD
- Incidence of ADHD
- Types of ADHD
- Causes of ADHD
- Pathophysiology of ADHD
- Symptoms of ADHD
- Diagnosis of ADHD
- Treatment of ADHD
- Conditions associated with ADHD
- Prognosis of ADHD
- Conclusion

VALIDITY OF THE TOOL

Content validity represents the universe of content which provides the framework and basis for formulating the items that will adequately represent the content.

The constructed tool along with objectives, blue print and criterion checklist was submitted to five experts in the field of Psychiatric Nursing and medicine for content validity.

The selection of experts was done based on their experience and clinical expertise. The experts were requested to give their opinions regarding relevancy, accuracy and appropriateness of the items for further modifications. Based on the suggestions given by the experts, modification and rearrangement of few items were done.

Content validity of the Structured Teaching Programme regarding Attention Deficit Hyperactivity Disorder:

Content validation of the structured teaching programme was ascertained in consultation with the experts in the field of Psychiatric nursing. Suggestions and recommendations of the experts were considered to modify the content of the Structured Teaching Programme.

RELIABILITY OF THE TOOL

Reliability of research instrument is defined as the extent to which the instrument yields the same results on repeated measures. The reliability of a measuring tool can be assessed in the aspects of stability, internal consistency, and equivalence depending on the nature of the instrument and aspects of the reliability concept.

The method adopted for the present study was test- retest method to measure the homogeneity of the tool using Karl Pearson's correlation coefficient formula reliability coefficient was r=0.92 and the tool was found to be statistically reliable for the main study.

PILOT STUDY

Pilot study is a small scale version of the proposed study conducted to refine the methodology. It is conducted similar to the proposed study, using similar subjects, the similar setting, the same treatment, the same data collection and the same analysis technique.

The Purpose of the Pilot Study:

- To find out the feasibility of conducting the final study
- To evaluate the tool constructed.
- To finalize the plan for analysis.

The pilot study was conducted in St. Antony Matriculation Higher Secondary School, Palliyuthu, at Erode district. Five was placed in primary school teachers were selected using convenient sampling technique. The subjects for the pilot study possessed the same characteristics as that of the sample for the final study, but were not included in the main study. Prior to the study permission was obtained from the concerned authority. The selected subjects were informed of the purpose of the study and consent was obtained. Assessment of knowledge was done by using structured questionnaire. Post-test was conducted using the same structured questionnaire on the seventh day of pre-test and after the administration of structured teaching programme regarding Attention Deficit Hyperactivity Disorder. The time taken to complete one questionnaire was 30 minutes. The collected data were analyzed using descriptive and inferential statistics. After conducting the pilot study, it was found that the study was feasible. The concerned authority and the sample were found to be cooperative, the questionnaire and the structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder were relevant and the time and cost of the study was within the limit.

DATA COLLECTION PROCEDURE

Phase I: Screening Phase

The study was conducted in Navarasam Matriculation Higher Secondary School, Palliyuthu at Erode district. Data were collected for 4 weeks in the month of June and official permission was obtained from the authorities.

Screening was done with the help of the school teachers working in the particular school to select the samples. Total of 40 clients who fulfilled the selection criteria were selected by convenient sampling.

Phase – II: Data collection Phase

Before collecting the data, permission was obtained from the concerned authority. Keeping in mind the ethical aspect of research, the data was collected after obtaining the informed consent of the sample. The samples were assured anonymity and confidentiality of information provided by them. The researcher collected the data from the subjects. Pre-test was conducted on the month of June followed by administration of regarding Attention Deficit Hyperactivity Disorder. Post-test was conducted on June to evaluate the effectiveness of structured teaching programme regarding Attention Deficit Hyperactivity Disorder.

Phase – III: Termination Phase

The tool was verified for completion. The clients were assured about the confidentiality of the data. The clients were made comfortable. This phase lasted for a period of 2 minutes per client.

PLAN FOR DATA ANALYSIS

Data analysis is the systematic organization and synthesis of research data and testing of the research hypothesis using that data.

The data collected from the subjects were edited, coded and entered in excel sheet. The data were analyzed and using descriptive and inferential statistics by manual. A probability of less than 0.05 was considered to be significant. The following plan of analysis was developed:

- Description of the subjects with respect to demographic variables was presented in terms of frequency and percentage.

- Mean, Standard Deviation, and Mean difference, Range was used to evaluate the knowledge level of primary school teachers regarding attention deficit hyperactivity disorder.

- Statistical significance of the effectiveness of structured teaching programme was analyzed using Paired 't' test.

- Data on association between post test score of the primary school teachers and the selected background factors were explained by using chi- square (χ^2).

ETHICAL CONSIDERATIONS

For the present study, the investigator took into consideration the ethical values. The study was accepted by the research ethical committee of the college. Prior permission was obtained from the concerned authorities of the school. Purpose of the study was explained to the samples and informed written consent was taken. Confidentiality was promised and ensured. The participants were given freedom to quit from study in between if not willing. No routine duties were altered or withheld. No physical or psychological pain was caused.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is the systemic organization and synthesis of research data and the testing of research data and also the testing of research hypothesis using data. Interpretation is the adequate exposition of the facts presented in terms of purpose of the study.

This chapter deals with the analysis and interpretation of the data collected after the distribution of structured teaching programme regarding Attention Deficit Hyperactivity Disorder to the Primary school teachers working in Navarasm Matriculation Higher Secondary School, Palliyuthu at Erode district. The data collected were edited, tabulated, analyzed and interpreted and the findings obtained were presented in the form of tables and diagrams under the following sections.

THE DATA ANALYSIS WERE PRESENTED AS FOLLOWS

Section I: Data on selected demographic variables of primary school teachers in experimental group

Section II: Data on pre and posttest level of knowledge regarding Attention Deficit Hyperactivity Disorder among primary school teachers

Section III: Data on Effectiveness of structured teaching programme regarding Attention deficit Hyperactivity Disorder in increasing the level of knowledge among primary school teachers

Section IV: Data on association between the posttest level of knowledge and the selected demographic variables among primary school teachers

SECTION I: DATA ON SELECTED DEMOGRAPHIC VARIABLES OF PRIMARY SCHOOL TEACHERS IN EXPERIMENTAL GROUP

TABLE 1: FREQUENCY, PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF PRIMARY SCHOOL TEACHERS

Table No: 1

S.No	Demographic Variables	Experimental group	
		Frequency	Percentage
1.	**Age**		
	a) 22 – 25 years	15	37.5%
	b) 25 – 30 years	12	30%
	c) 30 – 35 years	7	17.5%
	d) above 35 years	6	15%

2.	**Gender**		
	a) Male	0	0
	b) Female	40	100%
3.	**Religion**		
	a) Hindu	25	62.50%
	b) Christian	13	32.50%
	c) Muslim	2	5%
	d) Others	0	0
4.	**Educational status**		
	a) Diploma in teacher education	22	55%
	b) Degree in teacher education	15	37.5%
	c) Master in teacher education	3	7.5%
	d) Others	0	0
5.	**Monthly Income in Rupees**		
	a) 6000-10000	20	50%
	b) 10001-15000	10	25%
	c) 15001-16000	8	20%
	d) Above 16000	2	5%
6.	**Marital status**		
	a) Single	16	40%
	b) Married	24	60%
	c) Divorced	0	0
	d) Separated	0	0

7.	**Residential area**		
	a) Rural	32	80%
	b) Urban	8	20%
8.	**Type of family**		
	a) Nuclear family	30	75%
	b) Joint family	10	25%
	c) Extended family	0	0
9.	**Any history of ADHD in family**		
	a) Yes	0	0
	b) No	40	100%
10.	**Years of experience in handling primary school**		
	a) 1-3 years	6	15%
	b) 3-6 years	7	17.5%
	c) 6-9 years	12	30%
	d) Above 9 years	15	37.5%
11.	**Previous knowledge regarding ADHD**		
	a) Yes	15	37.5%
	b) No	25	62.5%
12.	**If yes, Source of information**		
	a) Media	12	30%
	b) Curriculum	0	0
	c) Through family	0	0
	d) Internet	28	70%

Table No I: Shows the frequency and percentage distribution of demographic variables of primary school teachers.

Regarding Age majority 15(37.5%) were in the age group between 22-25 years, 12(30%) were distributed in the age group between 25-30 years, only 7(17.5%) belong to the age group between 30-35 years and 6(15%) were fallen in the category of above 35 years.

Regarding Gender, all the participants 40(100%) were females.

Regarding Religion, majority 25(62.5%) were Hindus, 13(32.50%) were Christians, only 2(5%) were Muslims, no one belong to other religion.

Regarding Educational status, majority 22(55%) completed diploma in teacher education, 15(37.5%) had completed degree in teacher education, 3(7.5%) had completed master in teacher education.

Regarding Monthly Income, majority 20(50%) were getting monthly salary between 6000-10000 rupees, 10(25%) were getting monthly salary between 10001-15000 rupees, 8(20%) were getting monthly salary between 15,001- 16,000 rupees, only 2 (5%) were earning above 16,000 rupees.

Regarding marital status, Majority 24(60%) got married, 16(40%) were single, no one belong to the category of separated and divorced.

Regarding Residential area, majority 32(80%) were residing in rural area and 8(20%) were coming from urban.

Regarding Type of family, majority 30(75%) were living in nuclear family, 10(25%) were living in joint family and no one belong to extended family.

Regarding any history of ADHD in family, majority 40(100%) had no history of ADHD in family.

Regarding Years of experience in handling primary school, Majority 15(37.5%) had more than 9 years of experience, 12(30%) had 6-9 years of experience, 7(17.5%) had 3-6 years of experience, 6(15%) had 1-3 years of experience.

Regarding previous knowledge about ADHD, majority 25(37.5%) didn't know about Attention Deficit Hyperactivity Disorder, 15(37.5%) had known about Attention Deficit Hyperactivity Disorder.

Regarding Source of Information regarding Attention deficit Hyperactivity Disorder, majority 28(70%) had known about Attention Deficit Hyperactivity Disorder through internet, 12(30%) had known about Attention Deficit Hyperactivity Disorder through media, and no one had information through curriculum and through family.

It was inferred that among 40 participants, majority 15(37.5%) were in the age group between 22-25 years, 40(100%) were females, 22(55%) completed diploma in teacher education, 20(50%) were getting monthly salary between 6000-10000 rupees, 24(60%) got married, 32(80%) were residing in rural area, 30(75%) were living in nuclear family, 40(100%) had no history of ADHD in family, 15(37.5%) had more than 9 years of experience, 25(37.5%) didn't know about Attention Deficit Hyperactivity Disorder, 28(70%) had known about Attention Deficit Hyperactivity disorder through internet.

SECTION II: DATA ON PRE AND POSTTEST LEVEL OF KNOWLEDGE REGARDING ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHERS

FIGURE 2: FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRETESTAND POST TEST LEVEL OF KNOWLEDGE REGARDING ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHERS

Figure: 2

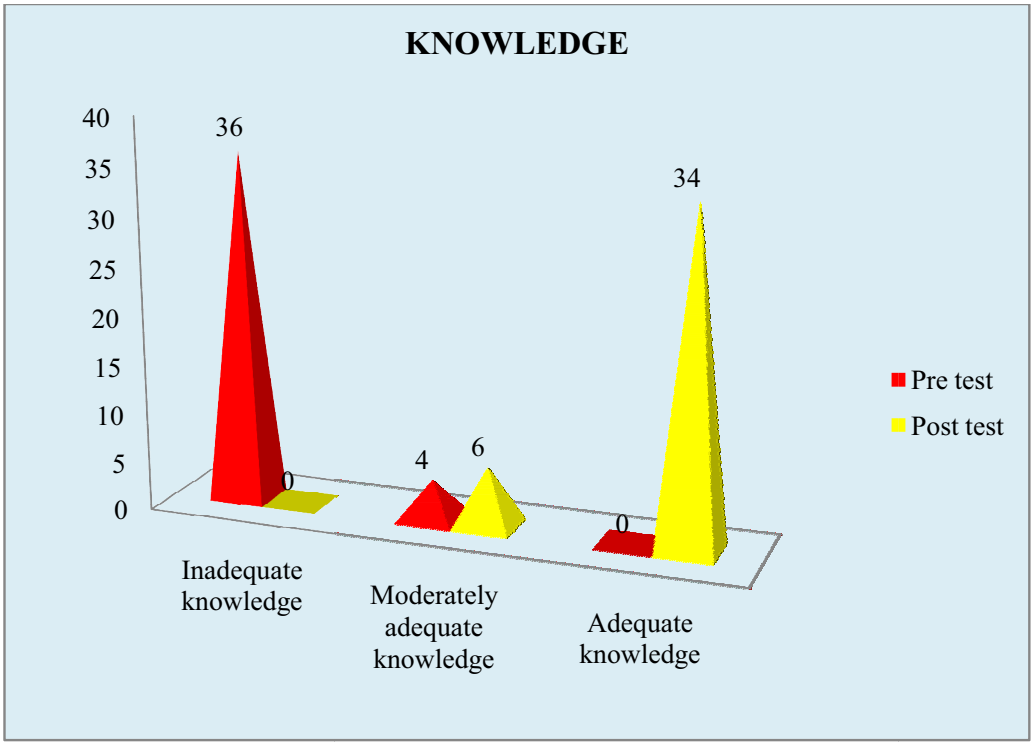


Figure 2: Shows the frequency and percentage distribution of pre and posttest level of knowledge regarding Attention deficit hyperactivity disorder among primary school teachers

Among 40 participants 36(90%) of primary school teachers had inadequate knowledge and 4(10%) had moderately adequate knowledge and none of them had adequate knowledge. The post test was administered after the structured teaching preogramme contains information regarding Attention Deficit Hyperactivity Disorder and the primary school teachers were requested to go through the structured teaching programme daily. On the eighth day post test was conducted by using the same questionnaire. The posttest knowledge scores showed a significant difference. Majority of them 34(85%) gained adequate knowledge and 6(15%) gained moderately adequate knowledge which showed that structured teaching programme regarding attention deficit hyperactivity disorder was effective.

SECTION III : DATA ON EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHERS

FIGURE: 3 MEAN AND STANDARD DEVIATION OF PRE AND POST TEST LEVEL OF KNOWLEDGE

Figure 3

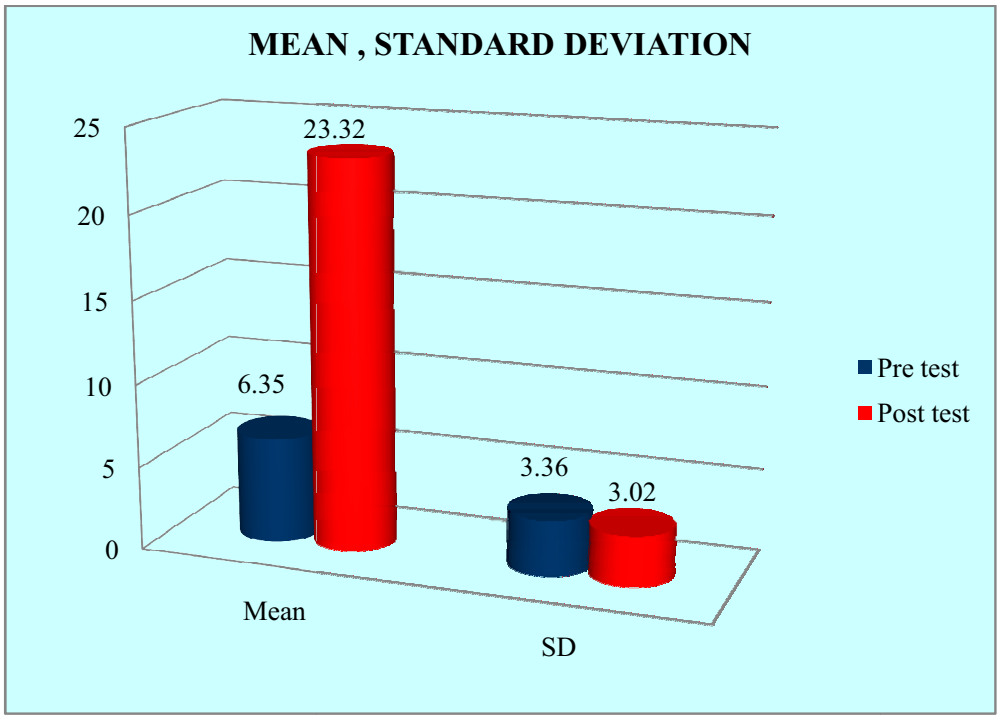


Figure 3: Shows the mean and standard deviation of pre and posttest knowledge scores

The obtained Over all posttest mean score 23.32 was more than the pretest mean score 6.35. The obtained mean difference was 16.97.The standard

deviation of pretest and posttest was 3.36 and 3.02 respectively. Hence Hypothesis 1 was accepted.

TABLE 2: MEAN, SD, RANGE, 't'VALUE REGARDING LEVEL OF KNOWLEDGE ON ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHERS BEFORE AND AFTER THE STRUCTURED TEACHING PROGRAMME REGARDING ATTENTION DEFICIT HYPERACTIVITY DISORDER

Table: 2

S.No	Experimental group	Mean	Mean Percentage	SD	Range	Mean Difference	't' Value
1.	**Pre test**	6.35	15.8%	3.36	2-17 (15)	16.97	22.62 Df =79 P<0.05 S
2.	**Post test**	23.32	58.3%	3.02	21-28 (7)		

S - Significant

Table 2: Shows the Mean, SD, Range, Mean difference and paired 't' value level of knowledge regarding attention deficit hyperactivity disorder among primary school teachers.

The obtain pretest overall mean score was 6.35, SD was 3.36, Mean percentage was 15.8% and range was 15. The obtained overall posttest mean score was 23.32, SD was 3.02, Mean percentage was 58.3% and range was 7. The mean difference between the pretest and post test score was 16.97 and the obtained "t" value 22.62 was significant at $P<0.05$ level.

It was inferred that there was a significant improvement in the level of knowledge among primary school teachers after the structured teaching programme regarding Attention Deficit Hyperactivity Disorder. Hence the structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder is effective among primary school teachers.

SECTION IV: DATA ON ASSOCIATION BETWEEN THE POST TEST LEVEL OF KNOWLEDGE AND THE SELECTED DEMOGRAPIC VARIABLES AMONG PRIMARY SCHOOL TEACHERS

TABLE: 3 FREQUENCY, PERCENTAGE DISTRIBUTION AND CHI SQUARE ASSOCIATION BETWEEN THE POST TEST LEVEL OF KNOWLEDGE AND THEIR SELECTED DEMOGRAPHIC VARIABLES OF PRIMARY SCHOOL TEACHERS

Table: 3

S.No	Demographic Variables	Experimental group		χ^2
		F	%	
1.	**Age**			
	a) 22 – 25 years	15	37.5%	χ^2 = 3.792
	b) 25 – 30 years	12	30%	Df = 6
	c) 30 – 35 years	7	17.5%	P>0.05
	d) above 35 years	6	15%	NS
2.	**Gender**			χ^2 = 0
	a) Male	0	0	Df = 2
	b) Female	40	100%	P>0.05
				NS

3.	**Religion**			χ^2 = 2.05
	a) Hindu	25	62.50%	Df = 6
	b) Christian	13	32.50%	P>0.05
	c) Muslim	2	5%	NS
	d) Others	0	0	
4.	**Educational status**			χ^2 = 1.93
	a) Diploma in teacher education	22	55%	Df = 6
	b) Degree in teacher education	15	37.5%	P>0.05
	c) Master in teacher education	3	7.5%	NS
	d) Others	0	0	
5.	**Monthly Income in Rupees**			
	a) 6000-10000	20	50%	χ^2 = 11.56
	b) 10001-15000	10	25%	Df = 6
	c) 15001-16000	8	20%	P>0.05
	d) Above 16000	2	5%	NS
6.	**Marital status**			χ^2 = 0.11
	a) Single	16	40%	Df = 6
	b) Married	24	60%	P>0.05
	c) Divorced	0	0	NS
	d) Separated	0	0	

7.	**Residential area** a) Rural **b)** Urban	 32 8	 80% 20%	χ^2 = 0.03 Df = 2 P>0.05 NS
8.	**Type of family** a) Nuclear family b) Joint family **c)** Extended family	 30 10 0	 75% 25% 0	χ^2 = 0.23 Df = 6 P>0.05 NS
9.	**Any history of ADHD in family** a) Yes **b)** No	 0 40	 0 100%	χ^2 = 11.76 Df = 2 P>0.05 NS
10.	**Years of experience in handling primary school children** a) 1-3 years b) 3-6 years c) 6-9 years **d)** Above 9 years	 6 7 12 15	 15% 17.5% 30% 37.5%	χ^2 = 11.92 Df = 6 P>0.05 NS
11.	**previous knowledge regarding ADHD** a) Yes **b)** No	 15 25	 37.5% 62.5%	χ^2 = 0.46 Df = 2 P>0.05 NS

12.	**If yes, Source of information**			
	a) Media	12	30%	χ^2 = 0.58
	b) Curriculum	0	0	Df = 6
	c) Through family	0	0	P>0.05
	d) Internet	28	70%	NS

S-Significant, NS- Not Significant

Table: 3 shows the Frequency, percentage distribution and chi square association between the posttest level of knowledge and their selected demographic variables of primary school teachers

It was inferred that the selected Demographic variables such Age, Gender, Religion, Educational status, Monthly income, Marital status, Residential area, Type of family, History of Attention deficit hyperactivity disorder in family, Years of experience in handling primary school children, previous knowledge regarding Attention deficit hyperactivity disorder, Source of information were not significant with the posttest level of knowledge at P>0.05.Hence the Hypothesis 2 was accepted.

CHAPTER V

SUMMARY, FINDINGS, DISCUSSION, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

This chapter deals with summary, findings, discussion, implications, limitations, recommendations and conclusion. The essence of any research project is based on study findings, limitations, interpretation, of the research results and recommendations to incorporate the study implications. It also gives meaning to the results obtained in the study.

SUMMARY

The main aim of the study was to assess the effectiveness of structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder among primary school teachers.

OBJECTIVES OF THE STUDY

- To assess the pretest and posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers

- To assess the effectiveness of structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder on the level of knowledge regarding attention deficit hyperactive disorder among primary school teachers

- To find out the association between the posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers and their selected demographic variables**.**

The study attempted to examine the following research hypothesis

HYPOTHESIS

H_1: There is a significant difference between the pretest and posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers.

H_2: There is a significant association between the posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers with their selected demographic variables.

Extensive literature review was done for the present study and the reviews were presented in the following headings, Studies related to the prevalence of ADHD, Studies related to the assessment of Knowledge regarding ADHD among school teachers, Studies related to the effectiveness of Structured Teaching Programme on ADHD among school teachers

The conceptual framework adopted for the present study was based on Betralanff's theory (1968) the general system theory. This theory helped the investigator to assess the effectiveness of structured teaching programme regarding Attention Deficit Hyperactivity disorder among teacher educations students.

The research design selected for the present study was pre experimental study to evaluate the effectiveness of structured teaching programme regarding Attention Deficit Hyperactivity Disorder among primary school teachers. The independent variable was structured teaching programme on Attention Deficit Hyperactivity Disorder and the dependent variable was knowledge regarding Attention Deficit Hyperactivity Disorder.

The investigator developed a structured questionnaire to measure knowledge as a tool for the present study. The content validity of the tool was established by five experts. The reliability of the tool was ascertained by test retest method and $r = 0.9$ and the tool was found to be reliable. Pilot study was conducted in St. Antony matriculation higher secondary school, palliyuthu, at Erode district among 5 primary school teachers who fulfilled the sample selection criteria. The study was found to be feasible.

The main study was conducted in Navarasam Matriculation Higher Secondary school, Palliyuthu at Erode district. Prior permission from the authorities was sought and obtained. Non probability convenient sampling technique was used to select the samples and informed consent was obtained. Pretest was conducted followed by distributing the structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder and the teachers handling first standard to fifth standard were asked to go through the structured teaching programme. The data gathered were analyzed and interpreted manually. A probability of $P<0.05$ level of significance was considered significant.

FINDINGS

The major findings of the study were classified under following headings.

1. **Findings on selected demographic variables of primary school teachers participated**

Among 40 participants, majority 15(37.5%) were in the age group between 22-25 years, 40(100%) were females, 22(55%) completed diploma in teacher education, 20(50%) were getting monthly salary between 6000-10000 rupees, 24(60%) got married, 32(80%) were residing in rural area, 30(75%) were living in nuclear family, 40(100%) had no history of ADHD in family, 15(37.5%) had more than 9 years of experience, 25(37.5%) didn't know about Attention Deficit Hyperactivity Disorder, 28(70%) had known about Attention Deficit Hyperactivity disorder through internet.

2. Findings on pre and posttest level of knowledge regarding Attention Deficit Hyperactivity Disorder among primary school teachers

Among 40 participants 36(90%) of primary school teachers had inadequate knowledge and4(10%) had moderately adequate knowledge and none of them had adequate knowledge. The post test was administered after structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder and the primary school teachers were requested to go through the structured teaching programme daily. On the eighth day post test was conducted by using the same questionnaire. The posttest knowledge scores showed a significant difference. Majority of them 34(85%) gained adequate knowledge and 6(15%) gained moderately adequate knowledge which

showed that structured teaching programme regarding attention deficit hyperactivity disorder was effective.

3. Findings on effectiveness of structured teaching programme regarding Attention Deficit Hyperactivity Disorder among primary school teachers

The obtain pretest overall mean score was 6.35, SD was 3.36, Mean percentage was 15.8% and range was 15. The obtained overall posttest mean score was 23.32, SD was 3.02, Mean percentage was 58.3% and range was 7. The mean difference between the pretest and post test score was 16.97 and the obtained "t" value 22.62was significant at $P<0.05$ level.

4.Findings on association between posttest level of knowledge and their selected demographic variables among primary school teachers

The selected Demographic variables such Age, Gender, Religion, Educational status, Monthly income, Marital status, Residential area, Type of family, History of ADHD in family, Years of experience in handling primary school children, previous knowledge regarding ADHD, Source of information were not significant with the posttest level of knowledge at $P>0.05$.

DISCUSSION

The result of the study were discussed according to the objectives of the study

Objective I: To assess the pretest and posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers.

In pretest majority 36(90%) of primary school teachers had inadequate knowledge and4(10%) had moderately adequate knowledge and none of them had adequate knowledge regarding Attention Deficit Hyperactivity Disorder. After the distribution of questionnaire majority of them 34(85%) gained adequate knowledge and 6(15%) gained moderately adequate knowledge which showed that structured teaching programme regarding attention deficit hyperactivity disorder was effective.

Anil Shetty etal (2013) did a cross sectional descriptive study to assess the awareness and knowledge of ADHD in the elementary school teachers and the variables influencing the knowledge of ADHD in India. 312 teachers participated in the study were selected by purposive sampling and given a self-reported questionnaire. Descriptive and inferential statistics were used to analyze the data. 268 teachers were aware of the term ADHD and their knowledge of ADHD ranged from poor to adequate. 28(9%) of teachers had prior training. Only 92(29%) of the teachers had a good understanding of ADHD. The study concluded that teaching experience and prior training had a positive bearing on knowledge and majority of teachers queried felt that their knowledge was inadequate and were willing to be trained on features of ADHD.

Objective II: To assess the effectiveness of structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder on the level of knowledge regarding attention deficit hyperactive disorder among primary school teachers

In pretest the obtained overall mean score was 6.35, SD was 3.36, Mean percentage was 15.8% and range was 15. The obtained overall posttest mean score was 23.32, SD was 3.02, Mean percentage was 58.3% and range was 7. The mean difference between the pretest and post test score was 16.97 and the obtained "t" value 22.62 was significant at $P<0.05$ level.

The above findings were supported by **Liza Thankam Daniel etal 2013**conducted a pre experimental one group pre and posttest design to assess the knowledge of primary school teachers regarding ESCD(early symptoms of childhood psychiatric disorder) before and after the administration of SIM(self-instructional educational module) on ESCD. After the pretest assessment the subjects were asked to study the SIM on ESCD for 15 days and the post test conducted on 16 the day. Mean pretest knowledge score of subjects was 9.71±4.1, whereas the mean post-test knowledge score of subjects was 15.60±3.3 indicated that SIM on ESCD was effective.

Objective III: To find out the association between the posttest level of knowledge regarding attention deficit hyperactive disorder among primary school teachers with their selected demographic variables.

The study showed that none of the demographic variables were not significantly associated with posttest level of knowledge.

Jyothsn Akam Venkata (2013) conducted a cross sectional study in Coimbatore district to identify the prevalence of ADHD to identify the gender difference in the prevalence of ADHD, to compare the distribution of ADHD among different socioeconomic status and also to identify the presence of any co-morbid factors associated with ADHD. 635 primary school children aged between 6-11 years are randomly selected to participate in the study. Conner's Abbreviated Rating Scale and Children's behavior Questionnaire, Personal information questionnaire were used to collect the data. Statistical Product and Service Solutions (SPSS) 10 software, Mean and Standard Deviation and student's *t* test were used for statistical analysis. The study prevalence revealed that 72 children found to have ADHD and prevalence was highest among the children of age 9 and 10 years. ADHD was more prevalent in the males (66.7%) than in the females (33.3%), the comorbid conditions associated with ADHD were poor academic performance, reading difficulty, writing difficulty, behavioral difficulties and poor social behavior. There was a significant difference in the prevalence of ADHD between the children belonging to lower (16.33%) and middle socioeconomic class (6.84%). The study indicated that the importance of early identification and thus helping in early intervention of this disorder.

IMPLICATIONS

The main aim of the study was to assess the effectiveness of structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder on the level of knowledge regarding ADHD among primary school teachers working in Navarasam Matriculation Higher Secondary School, Palliyuthu at Erode district. Information regarding ADHD was given to the clients through a structured teaching programme which

includes various aspects like definition of ADHD, etiology of ADHD, pathophysiology of ADHD, diagnostic investigations done in ADHD, etc.

The following conclusions were drawn on the basis of findings of the study:

- The pre-test findings showed that knowledge of clients regarding Attention deficit Hyperactivity disorder was inadequate.

- The distribution of structured teaching programme helped the clients to understand more about ADHD.

- 85% of the clients were having adequate level of knowledge and 15% were having moderately adequate level of knowledge after the structured teaching programme.

- The structured teaching programme is proved to be very effective method of transforming information.

Nursing implications

The findings of the study have implications on the field of nursing education, nursing practice, nursing administration and nursing research.

Nursing practice

- Structured teaching programme contains information regarding Attention Deficit Hyperactivity Disorder helps to improve the primary school teacher's level of knowledge on ADHD

- Structured teaching programme can be used in various child care centers, Under five clinics of the community health centers, to give health education to the parents and the caregivers of the children suffering from ADHD.

- It helps in identifying the problems of the children suffering from ADHD.

- It provides appropriate information regarding ADHD.

Nursing education

- The nurse educator have the responsibility to update the knowledge, attitude and practice of nursing students on knowledge and awareness about ADHD.

- The findings of the study can serve as guidelines for the nurse educators for preparing structured teaching programme for student nurses regarding ADHD.

- The nursing students should be made aware about their role in health promotion of the children suffering from Attention Deficit Hyperactivity Disorder and prevention of Attention Deficit Hyperactivity Disorder.

- The students should be motivated to make up innovational approaches to provide health education regarding ADHD in different settings.

Nursing administration

- ❖ It helps the nursing administrator to prepare structured teaching programme or self-instructional educational module regarding ADHD to community and public.

- ❖ It helps the nurse to learn how they can reach the primary school teachers, teacher education students to create awareness regarding Attention Deficit Hyperactivity Disorder.

- ❖ It gives more awareness about planning budget to print structured teaching programme regarding various childhood problems.

Nursing research

- ❖ The study provides a baseline data for conducting other research studies.

- ❖ The study will be a motivation for the budding researchers to conduct similar studies in larger samples.

- ❖ The study will be a reference for the research scholars.

- ❖ Further research works can be conducted with every medical condition to identify most effective knowledge imparting strategies.

LIMITATIONS

The following points were beyond the control of the investigator:

- Study is limited only those who are willing to participate in the study
- Study samples were small
- The study was limited to the experience of the researcher
- The study was confirmed to only on selected school, which obviously imposed limits to larger generalizations.

RECOMMENDATIONS

On the basis of the findings of the study, the following recommendations have been made:

- A similar study can be replicated on a large sample to generalize the findings.
- A similar study can be conducted to find the differences in the knowledge level of the primary school teachers on the basis of various institutional settings such as government and private institutions, state board and matriculation school.
- A similar study can be conducted to find differences in the knowledge level of the primary school teachers working in the schools located in urban and rural areas.
- A similar study can be conducted to find differences in the knowledge level, attitude and practice.

CONCLUSION

The findings of this study have been discussed with reference to the objectives and hypothesis. The pre testing of primary school teacher's knowledge regarding selected common behavioural problems of children like showed that Attention Deficit Hyperactivity Disorder primary school teachers have less knowledge about Attention Deficit Hyperactivity Disorder. This indicates the need for imparting necessary education and information regarding selected common behavioural problems of children such as Attention Deficit Hyperactivity Disorder.

CHAPTER VI

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APPENDIX -I

LETTER SEEKING PERMISSION TO CONDUCT MAIN STUDY

G.O.M.S.No. : 40 dt : 05.02.2007

SHIVPARVATHI MANDRADIAR INSTITUTE OF HEALTH SCIENCE

(COLLEGE OF NURSING)

Palayakottai (Po) Tirupur (Dt) - 638 108. TamilNadu.

Tel : 04257-242200, 241800, Mobile : 9486033000 Fax : 04257-242200

E-Mail : spmihs@gmail.com. Web : www.spmihscollegeofnursing.org

(Recognized by Indian Nursing Council, Tamilnadu Nurses & Midwives Council, Affiliated to The TamilNadu Dr.M.G.R.Medical University)

To

The Principal
Navarasam Matriculation Higher Secondary School
Palliyuthu
Erode

Respected Sir/Madam,

Greetings from Shivparvathi Mandradiar Institute of Health Sciences, Tirupur.

Sub: Requisition of avail the permission to conduct project – Regarding.

This is to certify that **Ms.Murugeswari.A** is the bonafied student of our college studying M.Sc(Nursing) II-Year in the academic year of 2014-2015. As part of the M.Sc Nursing curriculum prescribed by the TamilNadu Dr.M.G.R.Medical University, Chennai, She need to conduct a project and she is willing to do at your institution. So, kindly do the needful and grant her permission to conduct the study.

The details of the project will be briefed to you by her in person

Thanking you

Yours sincerely

Forwarded
kindly do the
needful.

PRINCIPAL
SHIVPARVATHI MANDRADIAR
INSTITUTE OF HEALTH SCIENCES
PALAYAKOTAI-638 108.

APPENDIX -II

LETTER GRANTING PERMISSION TO CONDUCT MAIN STUDY

G.O.M.S.No. : 40 dt : 05.02.2007

SHIVPARVATHI MANDRADIAR INSTITUTE OF HEALTH SCIENCE

(COLLEGE OF NURSING)

Palayakottai (Po) Tirupur (Dt) - 638 108. TamilNadu.
Tel : 04257-242200, 241800, Mobile : 9486033000 Fax : 04257-242200
E-Mail : spmihs@gmail.com. Web : www.spmihscollegeofnursing.org
(Recognized by Indian Nursing Council, Tamilnadu Nurses & Midwives Council, Affiliated to The TamilNadu Dr.M.G.R.Medical University)

To

The Principal
Navarasam Matriculation Higher Secondary School
Palliyuthu
Erode

Respected Sir/Madam,

Greetings from Shivparvathi Mandradiar Institute of Health Sciences, Tirupur.

Sub: Requisition of avail the permission to conduct project – Regarding.

This is to certify that **Ms.Murugeswari.A** is the bonafied student of our college studying M.Sc(Nursing) II-Year in the academic year of 2014-2015. As part of the M.Sc Nursing curriculum prescribed by the TamilNadu Dr.M.G.R.Medical University, Chennai, She need to conduct a project and she is willing to do at your institution. So, kindly do the needful and grant her permission to conduct the study.

The details of the project will be briefed to you by her in person

Thanking you

Yours sincerely

forwarded kindly do the needful.

PRINCIPAL
SHIVPARVATHI MANDRADIAR INSTITUTE OF HEALTH SCIENCES PALAYAKOTAI-638 108.

Permitted

PRINCIPAL,
NAVARASAM M H S S,
Palliyuthu(Po.) Arachalur (Via),
Erode District. Pin - 638 101.

APPENDIX - III

LETTER SEEKING EXPERTS OPINION FOR THE CONTENT VALIDITY OF

THE TOOL USED FOR THE STUDY

From

301331854,
M.Sc Nursing 2nd year,
SPM college of nursing,
Palayakottai,
Erode .

To

Forward through
The Principal,
SPM college of nursing,
Erode.

Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content validity of the tool.

I am, 301331854 post graduate student in Psychiatric nursing ,Shiv Parvathi Mandradiar College of Nursing affiliated to The Tamilnadu Dr. MGR Medical University, Chennai. As a partial fulfillment of the M.Sc Nursing programme, I have selected the following topic for the research.

Topic :"A pre experimental study to assess the effectiveness of structured teaching programme on the level of knowledge regarding Attention Deficit

Hyperactivity Disorder among primary school teachers in a selected school at Erode District."

I here by, enclose the following documents for your kind reference

1. Introduction

2.Statement of the problem

3. Objectives of the study

4. Operational definition

5. Research methodology

6.Structured questionnaire.

Hence, I request you to kindly examine the tool item wise and give your valuable opinion and suggestions for improvements of this tool.

Kindly sign the certificate of validation starting that you have validate the tool, Your kind co-operation and expert judgment will be very much appreciated and gratefully acknowledged.

Thanking you,

Date:

Place: Palayakottai. Your's sincerely,

(301331854)

APPENDIX – IV

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of 301331854, MSc Nursing student who is undertaking "**A pre experimental study to assess the effectiveness of structured teaching programmeon the level of knowledge regarding Attention Deficit Hyperacitivity Disorder among primary school teachers in a selected school at Erode district".**

Signature of the Expert:

Name:

Designation:

Date:

APPENDIX – V

LIST OF EXPERTS

1. Mrs. Roja, M.Sc., (N)
   Associate Prof. in Psychiatric Department,
   Madha College of Nursing
   Manamadurai.

2. Mrs. Jansirani, M.Sc., (N)
   Professor in Psychiatric Department,
   CSI Jayaraj Annabackyam College of Nursing,
   Pasumalai, Madurai.

3. Mr. Premkumar, M.Sc., (N)
   Associate Prof. in Psychiatric Department,
   Madha College of Nursing,
   Manamadurai.

4. Mr. Sagar, M.Sc, (N)
   Professor in Psychiatric Department
   Arun College of Nursing,
   Vellore.

5. Dr. Balu, M.B.B.S, DPM (Psych),
   Senior Psychiatrist,
   Krishna Nursing Home,
   Coimbatore.

APPENDIX – VI

CONSENT FORM FOR STUDY PARTICIPANTS

I 301331854 give my consent to participate in the research titled, **"A pre experimental study to assess the effectiveness of structured teaching programme on the level of knowledge regarding Attention deficit Hyperactivity Disorder among primary school teachers in a selected school, at Erode District",** which is being conducted by 301331854, II Year M.Sc(N), Shiv Parvathi Mandradiar Institute of Health Sciences, Palayakottai, Tamil Nadu, as part of her curriculum. I understand that this participation is entirely voluntary; I can withdraw consent at any time. I have understood that

1. The reason for the research is to assess the effectiveness of structured teaching programme regarding ADHD
2. No discomforts or stresses are foreseen.
3. No risks are foreseen. This choice will not affect the daily routine of the school.
4. No invocatory procedures are involved.
5. The results of this participation will be kept confidential.
6. The researchers will answer any further questions about the research, now or during the course of the project, and can be reached by phone at 301331854.

(Please sign both copies of this form. Keep one and return the other to the investigators.)

Name and Signature of Researcher Name and Signature of Participant

APPENDIX-VII

STRUCTURED TEACHING PROGRAMME ON ATTENTION DEFICIT HYPERACTIVITY DISORDER

Introduction

Paying attention in class shows a student's willingness to put forth her best effort in an educational setting. When students are alert, prepared and ready to listen, they have more of an opportunity to think critically about the educational material and ask appropriate questions to further their knowledge. Paying attention in class is also a sign of respect. For example, if a student is doodling on a piece of paper, talking to others or playing with electronic devices, the teacher may perceive the actions as disrespect or unwillingness to learn.

Being the teacher of a child with attention deficit and hyperactivity can be challenging. You may feel at your wits' end, as if "nothing works," or that you are constantly criticizing or telling your child "no." So this booklet will be very helpful to know more about ADHD and to speak with the school psychologist and the parents about the children when you notice something outside the norm in the children.

Attention deficit hyperactivity disorder

Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood brain disorders and can continue through adolescence and adulthood. It is a neuro developmental psychiatric disorder in which there are significant problems with executive functions (e.g., attention control and

inhibitory control) that cause attention deficits, hyperactivity or impulsiveness which is not appropriate for a person's age. It is a behavioral disorder, not an illness or a sign of low intelligence.

Executive function refers to a number of mental processes that are required to regulate, control, and manage daily life tasks. Some of these impairments include problems with organization, time keeping, and excessive procrastination, concentration, processing speed, regulating emotions, and utilizing working memory.

Incidence

ADHD is diagnosed approximately three times more in boys than in girls. About 30–50% of people diagnosed in childhood continue to have symptoms into adulthood and between 2–5% of adults have the condition.

Types of ADHD

Based on the presenting symptom ADHD can be divided into three subtypes:

Predominantly inattentive:

The child meets the criteria for both inattention but not the criteria for hyperactivity and impulsivity for the past six months.

Predominantly hyperactive-impulsive:

The child meets the criteria for hyperactivity-impulsivity, but not the criteria for inattention, in the past six months.

Combined type:

The child meets the criteria for both in attention and hyper activity impulsivity for the past six months.

Causes:

The cause of most cases of ADHD is unknown; however, it is believed to involve interactions between genetic and environmental factors.

Genes:

Inherited from our parents, genes are the "blueprints" for who we are. Results from several international studies of twins show that ADHD often runs in families. Researchers are looking at several genes that may make people more likely to develop the disorder.

Environmental factors:

Studies suggest a potential link between cigarette smoking and alcohol use during pregnancy and ADHD in children. In addition, preschoolers who are exposed to high levels of lead and polychlorinated biphenyl which can sometimes be found in plumbing fixtures or paint in old buildings, have a higher risk of developing ADHD. Exposure to organophosphate insecticides and dialkyl phosphate is associated with an increased risk.

Brain injuries:

Children who have suffered a brain injury may show some behaviors similar to those of ADHD. However, only a small percentage of children with ADHD have suffered a traumatic brain injury.

Neurophysiology:

It includes differences in brain anatomy, electrical activity and metabolism

Drugs:

The child's mother used nicotine or cocaine during pregnancy

Lack of early attachment:

If a baby does not bond with their parent or caregiver or has traumatic experiences related to the attachment, this can contribute to their inattention and hyperactivity.

Childhood post-traumatic stress disorder:

A child with this disorder may have symptoms similar to ADHD, but will need different treatment.

Sugar:

The idea that refined sugar causes ADHD or makes symptoms worse is popular, but more research discounts this theory than supports it.

Food additives:

There is currently no research showing that artificial food coloring causes ADHD. However, a small number of children with ADHD may be sensitive to food dyes, artificial flavors, preservatives, or other food additives.

Infections during pregnancy:

Measles, Vricella, Rubella,Enterovirus Streptococcal bacterial infection.

Very low birth weight

Premature birth

Pathophyisology

Current models of ADHD suggest that it is associated with functional impairments in some of the brain's neurotransmitter systems, particularly those involving dopamine and norepinephrine. The dopamine and norepinephrine pathways that originate in the ventral segmental area and locus coeruleus, project to diverse regions of the brain and govern a variety of cognitive processes. The dopamine pathways and norepinephrine pathways which project to prefrontal cortex and striatum are directly responsible for modulating

executive function, motivation and reward perception. These pathways are known to play a central role in the pathophysiology of ADHD.

Brain structure

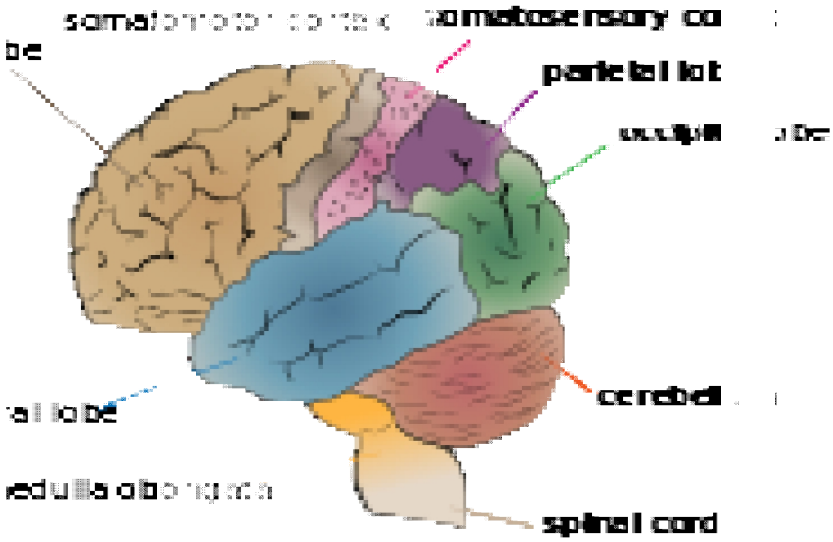

Diagram of the human brain

In children with ADHD, there is a general reduction of volume in certain brain structures, with a proportionally greater decrease in the volume in the left-sided prefrontal cortex. The posterior parietal cortex also shows thinning in ADHD individuals compared to controls. Other brain structures in the prefrontal-striatal-cerebellar and prefrontal-striatal-thalamic circuits have also been found to differ between people with and without ADHD.

Symptoms

Inattention, hyperactivity, and impulsivity are the key behaviors of ADHD. It is normal for all children to be inattentive, hyperactive, or impulsive sometimes, but for children with ADHD, these behaviors are more severe and occur more often. To be diagnosed with the disorder, a child must have symptoms for 6 or more months and to a degree that is greater than other children of the same age and they must also cause problems in the person's social, academic or work life.

Children who have symptoms of inattention may:

- Be easily distracted, miss details, forget things, and frequently switch from one activity to another
- Have difficulty focusing on one thing
- Become bored with a task after only a few minutes, unless they are doing something enjoyable
- Have difficulty focusing attention on organizing and completing a task or learning something new
- Have trouble completing or turning in homework assignments, often losing things (e.g., pencils, toys, assignments) needed to complete tasks or activities
- Not seem to listen when spoken to
- Daydream, become easily confused, and move slowly
- Have difficulty processing information as quickly and accurately as others

- Struggle to follow instructions.

Children who have symptoms of hyperactivity may:

- Fidget and squirm in their seats
- Talk nonstop
- Dash around, touching or playing with anything and everything in sight
- Have trouble sitting still during dinner, school, and story time
- Be constantly in motion
- Have difficulty doing quiet tasks or activities.

These hyperactivity symptoms tend to go away with age and turn into "inner restlessness" in teens and adults with ADHD.

Children who have symptoms of impulsivity may:

- Be very impatient
- Blurt out inappropriate comments, show their emotions without restraint, and act without regard for consequences
- Have difficulty waiting for things they want or waiting their turns in games
- Often interrupt conversations or others' activities.

Diagnosis of ADHD

ADHD symptoms usually appear early in life, often between the ages of 3 and 6, and because symptoms vary from person to person, the disorder can be hard to diagnose.

Often, teachers notice the symptoms first, when a child has trouble following rules, or frequently "spaces out" in the classroom or on the playground.

No single test can diagnose a child as having ADHD. Instead, a licensed health professional needs to gather information about the child, and his or her behavior and environment. The pediatrician or mental health specialist will first try to rule out other possibilities for the symptoms. For example, certain situations, events, or health conditions may cause temporary behaviors in a child that seem like ADHD.

Between them, the referring pediatrician and specialist will determine if a child:

- Is experiencing undetected seizures that could be associated with other medical conditions
- Has a middle ear infection that is causing hearing problems
- Has any undetected hearing or vision problems
- Has any medical problems that affect thinking and behavior
- Has any learning disabilities

- Has anxiety or depression, or other psychiatric problems that might cause ADHD-like symptoms

- Has been affected by a significant and sudden change, such as the death of a family member, a divorce, or parent's job loss.

A specialist will also check school and medical records for clues, to see if the child's home or school settings appear unusually stressful or disrupted, and gather information from the child's parents and teachers. Coaches, babysitters, and other adults who know the child well also may be consulted.

The specialist also will ask:

- Are the behaviors excessive, and do they affect all aspects of the child's life?

- Do they happen more often in this child compared with the child's peers?

- Are the behaviors a continuous problem or a response to a temporary situation?

- Do the behaviors occur in several settings or only in one place, such as the playground, classroom, or home?

The specialist pays close attention to the child's behavior during different situations. Some situations are highly structured, some have less structure. Others would require the child to keep paying attention. Most children with ADHD are better able to control their behaviors in situations

where they are getting individual attention and when they are free to focus on enjoyable activities. These types of situations are less important in the assessment. A child also may be evaluated to see how he or she acts in social situations, and may be given tests of intellectual ability and academic achievement to see if he or she has a learning disability.

Finally, after gathering all this information, if the child meets the criteria for ADHD, he or she will be diagnosed with the disorder.

Diagnosis of ADHD using quantitative electroencephalography is an ongoing area of investigation, although the value of QEEG in ADHD is currently unclear.

Treatment of ADHD

Treatments include medication, various types of psychotherapy, education and training, or a combination of treatments.

Medications

Current medications do not cure ADHD. Rather, they control the symptoms for as long as they are taken. Medications can help a child pay attention and complete schoolwork. It is not clear, however, whether medications can help children learn better. Adding behavioral therapy, counseling, and practical support can help children with ADHD and their families to better cope with everyday problems. NIMH-funded research has shown that medication works best when treatment is regularly monitored by the prescribing doctor and the dose is adjusted based on the child's needs.

Stimulants such as methylphenidate and amphetamines are the most common type of medication used for treating ADHD. Although it may seem counterintuitive to treat hyperactivity with a stimulant, these medications actually activate brain circuits that support attention and focused behavior, thus reducing hyperactivity. In addition, a few non-stimulant medications, such as atomoxetine, guanfacine, and clonidine, are also available. For many children, ADHD medications reduce hyperactivity and impulsivity and improve their ability to focus, work, and learn. Medications also may improve physical coordination.

Zinc deficiency has been associated with inattentive symptoms and there is evidence that zinc supplementation can benefit children with ADHD who have low zinc levels. Iron, magnesium and iodine may also have an effect on ADHD symptoms. There is evidence of a modest benefit of omega 3 fatty acid supplementation, but it is not recommended in place of traditional medication.

However, a one-size-fits-all approach does not apply for all children with ADHD. What works for one child might not work for another. One child might have side effects with a certain medication, while another child may not. Sometimes several different medications or dosages must be tried before finding one that works for a particular child. Any child taking medications must be monitored closely and carefully by caregivers and doctors.

Stimulant medications come in different forms, such as a pill, capsule, liquid, or skin patch. Some medications also come in short-acting, long-acting, or extended release varieties. In each of these varieties, the active ingredient is the same, but it is released differently in the body. Long-acting or extended release forms often allow a child to take the medication just once a day before school, so he or she doesn't have to make a daily trip to the school nurse for

another dose. Parents and doctors should decide together which medication is best for the child and whether the child needs medication only for school hours or for evenings and weekends, too.

Side effects of medications

Under medical supervision, stimulant medications are considered safe. Stimulants do not make children with ADHD feel high, although some kids report feeling slightly different or "funny."

Preschoolers are more sensitive to the side effects of methylphenidate, and some may experience slower than average growth rates. Very young children should be closely monitored while taking ADHD medications.

The most commonly reported side effects are decreased appetite, sleep problems, anxiety, and irritability. Some children also report mild stomachaches or headaches. Most side effects are minor and disappear over time or if the dosage level is lowered.

- **Decreased appetite.** Be sure your child eats healthy meals. If this side effect does not go away, talk to your child's doctor. Also talk to the doctor if you have concerns about your child's growth or weight gain while he or she is taking this medication.

- **Sleep problems.** If a child cannot fall asleep, the doctor may prescribe a lower dose of the medication or a shorter-acting form. The doctor might also suggest giving the medication earlier in the day, or stopping the afternoon or evening dose. Adding a prescription for a low dose of a blood pressure medication called clonidine sometimes helps with sleep

problems. A consistent sleep routine that includes relaxing elements like warm milk, soft music, or quiet activities in dim light, may also help.

- **Less common side effects.** A few children develop sudden, repetitive movements or sounds called tics. Changing the medication dosage may make tics go away. Some children also may have a personality change, such as appearing "flat" or without emotion. **Talk with your child's doctor if you see any of these side effects.**

Rare side effects

The medications may lead to possible cardiovascular (heart and blood) or psychiatric problems. The agency undertook this precaution when a review of data suggested that ADHD patients with existing heart conditions had a slightly higher risk of strokes, heart attacks, and/or sudden death when taking the medications. Recently published studies, however, have not found evidence that using stimulants to treat ADHD increases the risk for cardiovascular problems.

The FDA review also found a slight increased risk, about 1 in 1,000, for medication- related psychiatric problems, such as hearing voices, having hallucinations, becoming suspicious for no reason, or becoming manic (an overly high mood), even in patients without a history of psychiatric problems. The FDA recommends that any treatment plan for ADHD include an initial health history, including family history, and examination for existing cardiovascular and psychiatric problems.

One ADHD medication, the non-stimulant atomoxetine (Strattera), carries another warning. Studies show that children and teenagers who take

atomoxetine are more likely to have suicidal thoughts than children and teenagers with ADHD who do not take it.

Psychotherapy

It is recommended first line treatment in those who have mild symptoms or are preschool aged. Different types of psychotherapy are used for ADHD. Psychotherapy used include psych educational input, behavior therapy, cognitive behavioral therapy, interpersonal psychotherapy, family therapy, school based interventions, social skills training, parent management training and neuro feedback. Behavioral therapy aims to help a child change his or her behavior. It might involve practical assistance, such as help organizing tasks or completing schoolwork, or working through emotionally difficult events. Behavioral therapy also teaches a child how to monitor his or her own behavior. Learning to give oneself praise or rewards for acting in a desired way, such as controlling anger or thinking before acting, is another goal of behavioral therapy. Parents and teachers also can give positive or negative feedback for certain behaviors. In addition, clear rules, chore lists, and other structured routines can help a child control his or her behavior.

Therapists may teach children social skills, such as how to wait their turn, share toys, ask for help, or respond to teasing. Learning to read facial expressions and the tone of voice in others, and how to respond appropriately can also be part of social skills training.

Regular physical exercise, particularly aerobic exercise, is an effective add on treatment for ADHD, although the best type and intensity is not currently known.

Dietary management

Studies show that a high protein, low sugar, no additive diet combined with ADHD friendly supplements like fish oil and Zink can drastically improve ADHD symptoms in children and adults**.**

Tips to teachers Help Kids Stay Organized and Follow Directions

Schedule: Keep the same routine every day, from wake-up time to bedtime. Include time for homework, outdoor play, and indoor activities. Keep the schedule on the refrigerator or on a bulletin board in the kitchen. Write changes on the schedule as far in advance as possible.

Organize everyday items. Have a place for everything, and keep everything in its place. This includes clothing, backpacks, and toys.

Use homework and notebook organizers. Use organizers for school material and supplies. Stress to your child the importance of writing down assignments and bringing home the necessary books.

Be clear and consistent. Children with ADHD need consistent rules they can understand and follow.

Give praise or rewards when rules are followed. Children with ADHD often receive and expect criticism. Look for good behavior, and praise it.

Conditions associated with ADHD

Some children with ADHD also have other illnesses or conditions. In children ADHD occurs with other disorders about ⅔ of the time. For example, they may have one or more of the following:

- **A learning disability.** A child in preschool with a learning disability may have difficulty understanding certain sounds or words or have problems expressing himself or herself in words. A school-aged child may struggle with reading, spelling, writing, and math.

- **Oppositional defiant disorder.** Kids with this condition, in which a child is overly stubborn or rebellious, often argue with adults and refuse to obey rules.

- **Conduct disorder.** This condition includes behaviors in which the child may lie, steal, fight, or bully others. He or she may destroy property, break into homes, or carry or use weapons. These children or teens are also at a higher risk of using illegal substances. Kids with conduct disorder are at risk of getting into trouble at school or with the police.

- **Anxiety and depression.** Treating ADHD may help to decrease anxiety or some forms of depression.

- **Bipolar disorder.** Some children with ADHD may also have this condition in which extreme mood swings go from mania (an extremely high elevated mood) to depression in short periods of time.

- **Tourette syndrome.** Very few children have this brain disorder, but, among those who do, many also have ADHD. People with Tourette syndrome have nervous tics, which can be evident as repetitive, involuntary movements, such as eye blinks, facial twitches, or grimacing, and/or as vocalizations, such as throat-clearing, snorting, sniffing, or barking out words inappropriately. These behaviors can be controlled with medication, behavioral interventions, or both.

- **Obsessive-compulsive disorder.**can co-occur with ADHD and shares many of its characteristics.

- **Substance use disorder**

- **Restless leg syndrome** has been found to be more common in those with ADHD and is often due to Iron deficiency anemia.

- **Sleep disorder** and ADHD commonly co-exist.

- **Persistent bed wetting, Language delay**

- **Developmental coordination disorder:**ADHD also may coexist with a sleep disorder, bed-wetting, substance abuse, or other disorders or illnesses. Recognizing ADHD symptoms and seeking help early will lead to better outcomes for both affected children and their families.

Prognosis

An 8-year follow up of children diagnosed with ADHD (combined type) found that they often have difficulties in adolescence, regardless of treatment or lack thereof. ADHD persists into adulthood in about 30–50% of cases. Those affected are likely to develop coping mechanisms as they mature, thus compensating for their previous symptoms.

Importance of knowing about ADHD

- People with ADHD more often have difficulties with social skills, such as social interaction and forming and maintaining friendships.

- About half of children and adolescents with ADHD experience social rejection by their peers compared to 10–15% of non-ADHD children and adolescents.

- People with ADHD have attention deficits which cause difficulty processing verbal and nonverbal language which can negatively affect social interaction. They also may drift off during conversations, and miss social cues.

- Difficulties managing anger are more common in children with ADHD as are poor handwriting and delays in speech, language and motor development.

- Teachers play a major role in the identification and assessment of children's academic and behavioral problems and make primary decision how to help them.

Conclusion

Teachers are often the first ones to recognize or suspect ADHD in children. Since teachers work with many different children, they also come to know how students typically behave in classroom situations requiring concentration and self-control. Paying attention is a more important skill that you might think and the new evidence suggests it can be taught. So I believe that this Programme is useful for you to mould the children with ADHD in a very special way.

APPENDIX - VIII

STRUCTURED QUESTIONNAIRE ON ATTENTION DEFICIT HYPERACTIVITY DISORDER

Code No ----------

Note : The following questions seek information about yourself. Kindly go through all the questions listed below and choose the appropriate response by placing a tick mark.

SECTION I: DEMOGRAPHIC DATA

1. Age

a) 22 – 25 years

b) 25 – 30 years

c) 30 – 35 years

d) above 35 years

2. Gender

a) Male

b) Female

3. Religion

a) Hindu

b) Christian

c) Muslim

d) Others

4. Educational Status

a) Diploma in teacher education

b) Degree in teacher education

c) Master in teacher education

d) Others

5. Monthly Income in Rupees

a) 6000 – 10000

b) 10001 – 15000

c) 15001 – 16000

d) above 16000

6. Marital status

a) Single

b) Married

c) Divorced

d) Separated

7. Residential area

a) Rural

b) Urban

8. Type of family

a) Nuclear family

b) Joint family

c) Extended family

9. Any History of ADHD in family

a) Yes

b) No

10. Years of experience in handling primary school children

a) 1 – 3 years

b) 3 – 6 years

c) 6 – 9 years

d) above 9 years

11. Previous knowledge regarding ADHD

a) Yes

b) No

12. If yes, Source of information

a) Media

b) Curriculum

c) Through family

d) Internet

SECTION II: QUESTIONS RELATED TO KNOWLEDGE REGARDING ADHD

1) Which one of the following statement is wrong about ADHD?

a) Genetic disorder

b) Childhood brain disorder

c) Neuro developmental psychiatric disorder

d) All the above

2) Which organ is affected in attention deficit hyper activity disorder?

a) Stomach

b) Liver

c) Brain

d) Pancreas

3) Which one of the following problem the child faces in attention deficit hyper activity disorder?

a) Problems in eating

b) Problems in executive functions

c) Problems in sleeping

d) Problems in elimination

4) Why it is necessary to study about ADHD?

a) It affects social interaction of the child

b) It affects the child's physical health

c) It affects child's psychological health

d) It affects child's intelligence

5) Who is more prone to get ADHD?

a) Boys

b) Girls

6) What has to be avoided during pregnancy to protect the child from getting ADHD?

a) Cigarette

b) Alcohol

c) Medications

d) Radiation

Answer: a) A& C b)B&C c)A &B d)C & D

7) What is the reason for ADHD in preschoolers?

a) Exposed to high levels of iron

b) Exposed to high levels of lead

c) Exposed to high levels of indium

d) Exposed to high levels of plastic

8) What kind of diet to be given to children with ADHD?

a) High protein and low sugar

b) High protein

c) Food rich in fiber

d) High carbohydrate and low fat

9) Which one of the following food item may cause ADHD?

a) Refined oil

b) Refined dal

c) Refined sugar

d) Polished rice

10) What kind of infection during pregnancy can lead to ADHD in children?

a) Mumps , measles , rubella

b) Streptococcal bacterial infection

c) HIV

d) Hepatitis

Answers: a)B&C b)C &D c)A& B d)A&D

11) Which one of the following factors can lead to ADHD?

a) Premature birth

b) Postdated babies

c) Cord around the neck

d) Birth asphyxia

12) Mention the neurotransmitters responsible for ADHD when it get imbalanced

a) Dopamine

b) Acetylcholine

c) Nor epinephrine

d) Epinephrine

Answer a)A& B b)A &D

13. What is the difference seen with ADHD when compared to normal children?

a) Diminished blood supply to all organs

b) Kidney will be shrink ned

c) Reduction of blood volume in certain brain structures

d) Heart will get enlarged

14. Which one of the following is getting affected more in ADHD?

a) Right sided prefrontal cortex

b) Left sided prefrontal cortex

c) Hypothalamus

d) Pituitary gland

15. What are all the key behaviors in ADHD?

a) In attention and Hyperactivity

b) Hyperactivity and Impulsivity

c) In attention and Impulsivity

d) Inattention, Hyperactivity, Impulsivity

16. How long the children should have the above mentioned symptoms to diagnose as having ADHD?

a) As soon as the symptoms appear

b) 2-3 months

c) 4-5 months

d) 6 or more months

17. Which one of the following characteristic will be present in ADHD?

a) Inattention

b) Often losing things like pencil and toys

c) Impulsivity

d) Tempertandrum

18. Which one of the following character will come under ADHD?

a) Nonstop talking

b) Impatient

c) Loss of speech

d) Interrupt conversation

19. What is the consequences of hyperactivity symptoms in teens and adults when the children grown up?

a) Aggression

b) Irritation

c) Inner restlessness

d) Agitation

20. At what age the symptoms will be present in the children with ADHD?

a) Between 1-3 years

b) Between 3-6 years

c) Between 6-9 years

d) Between 9-12 years

21. To diagnose the ADHD the specialist must talk with whom?

a) Parents

b) Teachers

c) Other adults who know the child well

d) All the above

22. How do you know that the children is having learning disability?

a) By testing the intellectual ability

b) By giving the test of academic achievement

c) By checking how the child acts in social situation

d) A&B

23. How can you help the children to cope up with everyday problems?

a) Behavioral therapy and counseling

b) Counseling and practical support

c) Medications

d) Behavioral therapy, counseling, practical support with medications

24)Which one of the following investigation used to diagnose ADHD in children?

a) Electrocardiography

b) CT brain

c) Electroencephalography

d) MRI brain

25. Which one of the following mineral can lead to ADHD when it is decreased in the body?

a) Calcium

b) Potassium

c) Zinc

d) Manganese

26. Which one of the following supplementation recommended for the children with ADHD?

a) Iodine supplementation

b) Potassium

c) Calcium supplementation

d) Multivitamins, Folic acid, Omega 3 fatty acid

27. Mention any one of the following condition associated with ADHD?

a) Obsessive compulsive disorder

b) Cardiovascular disorder

c) Gastrointestinal disorder

d) Lung infection

28.What is the reason for restless leg syndrome in those with ADHD?

a) Zinc deficiency

b) Folic acid deficiency

c) Iron deficiency

d) Calcium deficiency

29. Under what circumstances ADHD children are able to control their behaviors?

a) When they are getting Individual attention

b) When they are not attended

c) When they are in crowd

d) When they are restricted

ANSWER KEY

1.	D	16.	D
2.	C	17.	B
3.	B	18.	A
4.	A	19.	C
5.	A	20.	B
6.	C	21.	D
7.	B	22.	D
8.	A	23.	D
9.	C	24.	C
10.	C	25.	C
11.	A	26.	D
12.	B	27.	A
13.	C	28.	C
14.	B	29.	A
15.	D		

INTERPRETATION OF SCORES

Score	Result
0-10	Inadequate
11-20	Moderately adequate
21- 29	Adequate